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Comprehensive Health Manpower Planning: Demonstration of Research-Conference Procedures for Estimating Health Manpower Requirements and in Evaluating Educational and Training Programs for Selected Health Occupations in Non-Metropolitan Areas. Final Report.

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Identifiers-*Comprehensive Planning for Health Manpower Needs, Iowa

The purpose of this project was to explore the feasibility of developing a comprehensive system for health manpower planning which would involve educators, leaders in health occupations, state officials, and university research personnel. A long range approach was developed in the form of a theoretical model which considered population trends and composition, price of health service, per capita income and distribution, and health insurance and medicare. Working papers presented to a conference of representatives of health occupations and associations included preliminary employment forecasts and an outline intended to serve as the basis of a system of procedures for assessment of requirements, resources, training, and patterns of labor utilization for the various health occupations. The conference outlined in considerable detail a recommendation for the development of a health manpower data center which would operate in close conjunction with training organizations, research departments, health associations, and health service agencies and at the same time, coordinate its work with state health planning agencies. The recommendation served as a basis for a proposed system of comprehensive health manpower planning. (JK)

BR 7-8374
PA-24

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FINAL REPORT

Project No. 7-8374 PA 24
Grant No. OEG-1-7-078374-3897

Comprehensive Health Manpower Planning: Demonstration of Research-Conference Procedures for Estimating Health Manpower Requirements and in Evaluating Educational and Training Programs for Selected Health Occupations in Non-Metropolitan Areas.

Submitted to:

U.S. Department of Health, Education, and Welfare
Office of Education
Division of Comprehensive and Vocational Education Research
Washington, D. C.

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Ames, Iowa

May 31, 1968

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FINAL REPORT

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The research reported herein was performed pursuant to a grant with the Office of Education, U.S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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PREFACE

This constitutes the final report of a U.S. Office of Education sponsored pilot-feasibility research project entitled: "Demonstration of Research-Conference Procedures for Estimating Health Manpower Requirements and in Evaluating Educational and Training Programs for Selected Health Occupations in Non-Metropolitan Areas." (Project No. 7-8374; Grant No. OEG-1-7-078374-3897)

Briefly stated, the purpose of this project was to explore the feasibility of developing a comprehensive system for health manpower planning, involving educators, leaders in health occupations, state officials, and university research personnel.

Preliminary meetings to discuss health training needs in Iowa were held on April 12 and May 13, 1966. In April, 1966, representatives from the U.S. Office of Education were invited to discuss health occupation training needs with Iowa personnel and to assist in expanding programs for health occupations education and training in subprofessional and supportive areas. (See appendix A.)

In mid-August of 1966 a pilot-feasibility project was proposed by the Industrial Relations Center of Iowa State University. After considerable discussion and revision of the original concept, a project proposal was approved and funded for the period September 1, 1967 to March 31, 1968, later extended to May 31, 1968.

In addition to the U.S. Office of Education, financial support was also received from the U.S. Department of Labor's Manpower Administration (through the manpower institutional grant program) as well as matching contributions from Iowa State University. Support from the U.S. Office of Education also served to generate a research program in health manpower which developed concurrently with the pilot-feasibility study.

In addition to the final report submitted herewith, the following publications, which developed out of the activities of the pilot study, are incorporated by reference as a part of the final report:

(1) Dennis R. Maki, A Forecasting Model of Health Manpower Requirements in the Health Occupations. Industrial Relations Center, Iowa State University, Ames, Iowa, 1967.

(2) Thomas F. Lyons, Nursing Attitudes and Turnover: The Relation of Social-Psychological Variables to Turnover, Propensity to Leave, and Absenteeism Among Hospital Staff Nurses. Industrial Relations Center, Iowa State University, Ames, Iowa, 1968.

(3) Karen S. Hawley, Economics of Collective Bargaining by Nurses. Industrial Relations Center, Iowa State University, Ames, Iowa, 1967.

(4) Working Papers on Comprehensive Planning for Health Manpower Needs, Industrial Relations Center, Iowa State University, Ames, Iowa, March 13-14, 1968.

The following publications are in the process of completion:

(1) Proceedings of the Health Manpower Conference, March 13-14, 1968.

(2) Kenneth Mericle, The Demand for Technical and Supportive Personnel in Pharmaceutical Occupations (in cooperation with the Iowa Pharmacy Association).

Although extensive cooperation was received in all phases of this project, the recommendations and conclusions (unless otherwise indicated) are solely the responsibility of the principal investigator.

Edward B. Jakubauskas, Director
Industrial Relations Center
Iowa State University

I. Purpose and Goal of Research Project

A. The Project Procedure

The project plan envisaged a system of procedures for the assessment and evaluation of manpower requirements, resources, training, and patterns of labor utilization for selected health occupations.

The plan was designed along the lines of and was similar to a pilot study completed in Indianapolis, Indiana, by the consulting firm of Booz, Allen, and Hamilton for the Indianapolis Hospital Association.[1]

The end-product of the Iowa pilot project was the investigation of the feasibility of developing a comprehensive health manpower program for Iowa (and possibly the Great Plains States region). Involved in this project were representatives of action, research, and training organizations in Iowa, as well as federal and national officials.

The assessment of health manpower needs was to be accomplished by:

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1. See: Forbes W. Polliard. The Feasibility of a Systematic Study of Manpower Requirements and Education and Training Programs of Selected Health Occupations. Indianapolis Hospital Development Association, Inc. Nov. 30, 1966.

1. Completion of long-range estimates of health manpower requirements in Iowa (and the region) by the Occupational Employment forecasting Unit of the Industrial Relations Center.
2. Collection of data on health manpower trends and training, as well as other factors affecting manpower utilization.
3. A self-survey of manpower needs by personnel representing health occupations and associations in Iowa through the medium of a workshop planning session of consultants.

B. Project Timetable

Phase 1. Initial involvement of health, education, and research agencies, under the sponsorship of the Iowa State Manpower Development Council (April and May, 1966).

Phase 2. August 1966 - August 1967--Development and funding of pilot-feasibility project proposal.

Phase 3. September 1, 1967 - March 10, 1968--Preparation of working papers on state and local health manpower needs, supply, training facilities and problem areas:

a. Use of mailed questionnaires, interviews, and secondary data.
b. Working papers prepared for major occupational groups in health field.

Phase 4. March 13-14, 1968 (State Conference)

a. Evaluation of preliminary working papers through state level workshops including resource personnel from health, education, and research agencies.

b. Modification of working papers; identification of problem areas and gaps in health manpower policies and training.

Phase 5. April and May, 1968

a. Preparation of final report on pilot-feasibility study.

b. Completion of research studies generated by Office of Education grant.

Originally it was contemplated that, in addition to a state conference, four local workshops would be held. As plans developed over time, it became evident that state planning should precede any plans that might evolve at the local level. In Iowa the decision-making process is highly centralized at the state level--both among state agencies and health associations. A state level conference was held to spearhead and initiate multi-county health manpower planning as well as to provide the general framework for a comprehensive health manpower program.

C. Goals of Pilot-Feasibility Study

The specific goals of the pilot-feasibility study were:

1. To develop a replicable system of procedures (involving health, education, and research organizations) for estimating health

occupational employment requirements and supply on a statewide and (possibly) multi-county level.

2. To estimate future health manpower needs for Iowa and the region.
3. To determine the emergence of new occupations in the health field.
4. To determine the feasibility for restructuring professional health occupations with resultant emergence of new supportive health occupations.
5. To evaluate the effectiveness of current health education and training programs in Iowa and make recommendations for the establishment of new curricula, new careers for training, and new methods for imparting skills to workers in the health field.
6. To determine the degree of interest, cooperation, and participation of selected community representatives, health profession leaders, and appropriate educators in a comprehensive study of health manpower requirements and education and training programs.
7. To determine possible points of integration or coordination of the systematic study with existing programs of vocational education and training for health occupations in Iowa.

8. To analyze existing studies of health manpower and occupational education or training.
9. To identify and prepare data and data collection instruments.
10. To review study plans with selected community representatives, health profession leaders, and appropriate educators.
11. To assist in the possible development of a detailed plan for conducting the proposed comprehensive health manpower study.

II. Plan of Operation of the Feasibility Study

A. Participating Agencies

The contractor for the pilot study was the Industrial Relations Center of Iowa State University. To implement the pilot study it was imperative that cooperation be obtained from health and education agencies responsible for the training of health personnel or the delivery of health services.

In Iowa a key resource in training is the newly established system of Area Vocational Schools. Training in a variety of Occupations is provided in multi-county merged Area Vocational Schools, which are operated locally but supervised by the Iowa Department of Public Instruction.

Training in health occupations is promoted and supervised for the Area Vocational Schools by the Department of Public Instruction through its "Health Occupations Education Section" which is officed at Iowa City in close proximity to College of Medicine and other health departments of the University of Iowa. The Health Occupations Section has the responsibility for developing a wide range of training programs in the health field and serves in a liaison position between the Area Vocational Schools, the State Department of Public Instruction, and health agencies in Iowa.

The State Department of Health located in Des Moines has a wide range of responsibilities including the certification of nursing homes and licensing for employment in many health occupations. In addition to this, the Department of Health has been conducting a one-year project, funded by the U.S. Public Health Service, to explore methods for reactivating inactive nurses and other health workers in Iowa. Miss Phyllis Roberts, director of the project, has cooperated with the Industrial Relations Center in its feasibility study.

The College of Medicine and the Office of the Vice President for Health Services at the University of Iowa have cooperated with our Center on the feasibility study through the "Iowa Regional Medical Program." This program is responsible for developing cooperative arrangements among medical schools, research institutions, and hospitals.[2]

Within the State Department of Public Instruction, the "Research Coordinating Unit" has been working closely with all groups involved in the feasibility study. The RCU coordinates vocational education research and its application to actual problems of occupational training in Iowa.

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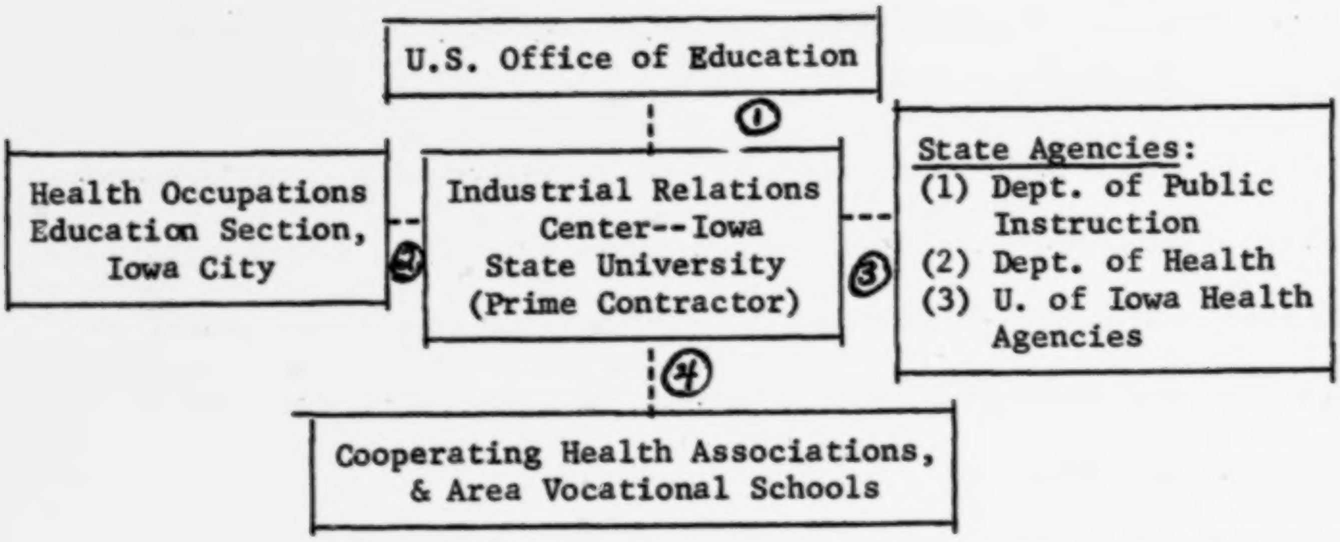
[2] The Iowa Regional Medical Program was established under the provisions of Public Law 89-239, which authorizes grants for the planning and establishment of regional medical programs to insure that people throughout the country share the benefits of medical advances in heart, stroke, cancer and related diseases. Assistance received from Professor Sam Wu and Dr. John Bartlett of the Iowa Regional Medical Program is gratefully acknowledged.

Subsequent to the development of the feasibility study the State Planning Agency was established in the Governor's office. Since the State Planning Agency was in a formative stage during the feasibility study, it was not included. For future implementation of the comprehensive program, the State Planning Agency should exert a leadership role in planning and coordinating operations for health manpower in Iowa in cooperation with health groups.

In addition to the organizations indicated above, cooperation of numerous other organizations and individuals in Iowa has been received.

Chart I. Organization of Pilot Study


U.S. Office of Education
①
Health Occupations Education Section, Iowa City
②
Industrial Relations Center--Iowa State University (Prime Contractor)
③
State Agencies:
(1) Dept. of Public Instruction
(2) Dept. of Health
(3) U. of Iowa Health Agencies
④
Cooperating Health Associations, & Area Vocational Schools

(1) Pilot-Feasibility grant awarded to Industrial Relations Center, Iowa State University, Ames, September 1967.

(2) Cooperative Health Manpower Conference sponsored jointly by Health Occupations Education Section, Iowa City, and Industrial Relations Center, March 13-14, 1968.

(3) Cooperation received from state agencies in preparation of feasibility study.

(4) Consulting services received from Health Associations and Area Vocational Schools, March 13-14, 1968.

B. Phase I of the Study: Estimation of Health Manpower Occupational Employment Requirements

The Indianapolis pilot-feasibility study was launched with a survey questionnaire mailed to all hospitals in the Indianapolis area, requesting information on manpower needs and anticipated and current job vacancies by occupational classification. From the reported data, it was determined that shortages of manpower existed and would continue to exist in the future. A comprehensive health manpower proposal was prepared and submitted to the U.S. Office of Education for approval and possible funding.

For Iowa this approach did not appear to be fruitful nor feasible even at this early stage. Job vacancies are a function of current wages and working conditions. From an economic point of view, job vacancy data are meaningless without a specification of a schedule of wages and working conditions. Vacancies may exist solely because of an unwillingness of administrators to meet local labor market wages. From another point of view vacancies become indeterminate if one questions the efficiency of current work procedures, or if new technology and work procedures are introduced.

Job vacancy data are also subject to many other qualifications, i.e., whether vacancies are budgeted or whether hospitals are actively seeking to fill jobs. Longer-run estimates by health organizations are also subject to numerous qualifications and form a poor or misleading foundation for a comprehensive health manpower program.

The Iowa study's strategy in estimating health manpower needs involved both a short-run and a longer-run approach. In the short-run secondary source materials were obtained for Iowa from U.S. Public Health Service and health association data. It was found that considerable data were already available or currently in the process of development. These data were accumulated and prepared for 10 major health occupational groups, and included as Part IV of the Health Manpower Conference Working Papers. (The working papers are incorporated as part of this final report.) Conference participants were encouraged to react to the manpower data pertaining to their respective occupations. In some cases, alternative data were uncovered through association sources which were deemed more relevant for policy making purposes.

Long-run health manpower information on occupational employment needs was also considered of great importance to the pilot study and any comprehensive study which would be developed for Iowa or the region in the future. For this activity, two related research units were established within the Industrial Relations Center. These were established both for the pilot study and for the future activity of the Industrial Relations Center. U.S. Office of Education funds were instrumental in launching the two units. Additional financing was obtained through portions of grants from the U.S. Department of Labor, matching funds from Iowa State University, and other sources. The two research units were (1) Health Manpower and (2) Occupational Employment Forecasting.

The Occupational Employment Forecasting Unit prepared a theoretical model for estimating health manpower requirements. This study was completed by Mr. Dennis Maki as a doctoral dissertation in late 1967.[3]

The model considers the demand for health services, and includes under demand:

1. Population trends and composition
2. Price of health services
3. Per capita income and distribution
4. Health insurance and medicare

In addition, the Maki model incorporates technical and demand coefficients, and upper and lower constraints in relation to supply. The model develops an objective function and total resource constraint, with a testing process to determine the accuracy of the model.

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[3] Dennis R. Maki. A Forecasting Model of Health Manpower Requirements in the Health Occupations. Industrial Relations Center, Iowa State University, Ames, Iowa, 1967.

Dr. Maki's estimation model will serve as a useful forecasting tool for the eventual development of a comprehensive health manpower program for Iowa and the region.

The Occupational Employment Forecasting Unit also developed health manpower estimates for Iowa and the region consistent with national trends. Mrs. Catherine Palomba developed health manpower employment trends for Iowa and the region by utilizing a forecasting procedure developed by the U.S. Bureau of Labor Statistics and presented in the BLS publication Tomorrow's Manpower Needs. Mrs. Palomba's research was intended to be a first estimate (and a tentative one) of health manpower needs and is presented in Parts II and III of the Conference Working Papers and reproduced in Appendix B.

Thus, before mailing out survey questionnaires which would in some cases duplicate existing materials or otherwise prove to be of limited value, the Iowa feasibility study was concerned with:

1. The development of a valid and reliable economic forecasting device which could be utilized for a future comprehensive study.

2. Forecasting health manpower needs for 1975 utilizing a BLS procedure which had been previously developed and tested.
3. A survey of secondary published sources on health manpower needs at the national and at the state level.

A job vacancy survey was deferred until the various health associations had been contacted and consulted prior to and during the March, 1968, Health Manpower Conference.

In general, the problem of useful health manpower data and forecasting was seen as a process rather than as something which could be accomplished through a single mailed questionnaire.

Occupational employment forecasting was considered to be merely the skeletal framework for a broader analysis of health manpower. In addition to health manpower estimates and forecasts, the U.S. Office of Education feasibility grant generated a number of related studies within the Center's Health Manpower Unit. Through U.S. Department of Labor support, Miss Karen Hawley completed an M.S. thesis on "Collective Bargaining for Nurses"--a study designed to elicit useful information on attitudes and behavior of nurses and hospital administrators toward the nursing profession in Iowa.[4]

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[4] Karen S. Hawley. Economics of Collective Bargaining by Nurses. Industrial Relations Center, Iowa State University, Ames, Iowa, 1967.

Also on nurses but developed as a separate study is Professor Thomas F. Lyons' publication on "Nursing Attitudes and Turnover: The Relation of Social-Psychological Variables to Turnover, Propensity To Leave, and Absenteeism Among Hospital Staff Nurses."[5]

To develop closer rapport with individual health associations, the Center cooperated with the Iowa Pharmaceutical Association in a survey of technical and supportive personnel In Iowa's pharmacies. Data were collected and processed, and a final report will be prepared by Mr. Kenneth Mericle of the Center's staff. Cooperation with the Pharmaceutical Association is to serve as a model for future cooperative studies with health associations in Iowa in the development of the comprehensive project.

Phase I of the pilot study, therefore, consisted of developing a structure for estimating health manpower requirements through short-run and long-run procedures and in conducting and publishing studies on working conditions and attitudes of health personnel in selected occupations. A portion of the data generated was included in the "working papers" for the health manpower conference. Another thrust of the pilot study's activities was aimed beyond the conference with the goal of developing better rapport with health associations and building the foundation for the eventual development of a comprehensive project.

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[5] Thomas F. Lyons. Nursing Attitudes and Turnover: The Relation of Social-Psychological Variables to Turnover, Propensity To Leave, and Absenteeism Among Hospital Staff Nurses. Industrial Relations Center, Iowa State University, Ames, Iowa, 1968.

C. Phase II of Study: Conference Working Papers on Health Manpower Requirements

In addition to preliminary occupational employment forecasts of health manpower requirements, the Industrial Relations Center staff prepared a set of working papers for conference participants. This was to serve as a system of procedures for a systematic assessment and evaluation of manpower requirements, resources, training, and patterns of labor utilization for specific health occupations.

The working papers were patterned after a similar self-survey conducted successfully by the State of Minnesota in 1955.[6] With some modification in the basic approach, the feasibility study was designed to develop a low-cost self-survey method for articulating the views and bringing to bear the specialized knowledge of educators responsible for the development of health training programs and health personnel involved in the delivery of health services upon health manpower problems.

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[6] The Minnesota Self-Survey: Reports of the Functional Task Forces and Summary Review. St. Paul, Minn., Dec. 15, 1956; The Minnesota Self-Survey: Reports of the Operational Task Forces and Summary Evaluation. St. Paul, Minn., Oct. 15, 1956.

In broad outline, the working papers[7] consisted of seven parts:

1. Purpose of conference
2. Health manpower requirements: the national picture
3. Health manpower requirements: Iowa and the region
4. Iowa's manpower requirements for selected health occupational areas
5. Suggestions and recommendations for meeting health manpower requirements
6. Participant suggestions for health manpower research needs
7. Bibliography

Part 4 was further subdivided into ten major health occupational groups:

- a. Clinical laboratory services
- b. Dentistry and related
- c. Dietetic and nutrition
- d. Environmental health
- e. Medical records and library services
- f. Nurses and related
- g. Rehabilitation

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[7] Working Papers on Comprehensive Planning for Health Manpower Needs, Industrial Relations Center, Iowa State University, Ames, Iowa, Mar. 13-14, 1968.

h. Radiology

i. Visual services and eye care

j. Pharmacy

For each of the ten groups information was presented on:

(1) Brief outline of employment trends

(2) Current training programs

(3) Changes in technology and job content

(4) Drawing inactives into the labor force

(5) Recommendation for meeting health manpower needs

Part 5 of the working papers was designed to elecit suggestions and recommendations for meeting health manpower needs through:

a. Recruitment

b. Education and training

c. Utilization

d. Working conditions

D. Phase III of Study: Conference Participants, Speakers, and Agenda

Invitations to participate in the Conference were made jointly by the Industrial Relations Center and the Health Occupations Education Section, Iowa City. Participants were selected on the basis of:

1. Responsibilities in relation to training of health personnel
2. Leadership in health associations

3. Recognition for innovation and idea development in either education or health
4. Active engagement in health manpower research

An attempt was made to achieve a balanced representation of all health occupational areas. As plans progressed, however, it was recognized that certain health occupations, such as nursing (LPN and RN) were in critical short supply and necessitated greater representation.

Initially it was planned to have each health occupational group meet at one of 10 separate tables. As plans developed, it was felt by the conference planners that "cross-fertilization" of ideas and interaction across health occupational lines would yield more useful ideas. With some trepidation the latter plan was adopted and each table represented mixed health occupations as well as a representative from research or education.

Out of a select group of invitees 77 individuals attended the two-day conference and bontributed their knowledge and experience toward the development of health programs. (See Appendix C for list of participants.)

Eight resource persons provided background information to the participants during the first day of the Conference. In addition to the cosponsors of the Conference, Miss Elizabeth E. Kerr

(Director of the Health Occupations Education Section) and Edward B. Jakubauskas (Director of the Industrial Relations Center), speakers at the conference were chosen to represent the College of Medicine at Iowa City, the State Department of Health, U.S. Office of Education, U.S. Public Health Service, and the regional office of the U.S. Department of Health, Education and Welfare. In addition, Mr. Robert M. Tomlinson was invited as a consultant from the University of Illinois.

The agenda for the two-day conference, including speakers, topics discussed and format follows in this report.

COMPREHENSIVE PLANNING FOR HEALTH MANPOWER NEEDS

IN THE

COMMUNITY, STATE, REGION

MARCH 13-14, 1968

TENTATIVE PROGRAM

EDNESDAY, MARCH 13, 1968

11:00 REGISTRATION
1:00 SESSION 1: Chairman: Elizabeth E. Kerr, Director
Program in Health Occupations Education
Division of Medical Affairs
University of Iowa
and
State Consultant
Health Occupations Education Section
Vocational Education Branch
State Department of Public Instruction

TOPIC: WHY COMPREHENSIVE PLANNING FOR HEALTH MANPOWER? -- AS SEEN BY THE FIELDS OF HEALTH, EDUCATION AND RESEARCH

Symposium: Dr. Robert C. Hardin, Vice President for Medical Affairs and Dean of the College of Medicine, University of Iowa

Helen K. Powers, Chief, Health Occupations Section, Bureau of Adult, Vocational Education and Library Services, U.S. Office of Education

Dr. Israel Light, Chief, Educational Program Development Branch, U.S. Public Health Service

Mr. Thaine D. McCormick, Director Region VI, Department of Health, Education and Welfare

3:00 COFFEE

3:20 SESSION 2: Chairman: Dr. Arthur P. Long, Commissioner of Public Health
State Department of Health

TOPIC THE SPECIFICS OF HEALTH MANPOWER PLANNING -- RECRUITMENT, EDUCATION AND HEALTH SYSTEMS DESIGN

Panel: Elizabeth E. Kerr

Dr. Edward B. Jakubauskas, Director
Industrial Relations Center
Iowa State University

Dr. Robert M. Tomlinson, Chairman
Industrial Education Department
University of Illinois and
Director, Iowa-Illinois Practical Nursing Study

5:30 SOCIAL HOUR - DUTCH TREAT

6:30 CONFERENCE DINNER

8:00 PM EVENING SESSION 3 -- SMALL GROUP WORKSHOP

9:00 RECESS UNTIL 9:00 AM

THURSDAY, MARCH 14, 1968

9:00 SESSION IV: Chairman: Dr. Edward B. Jakubauskas

SMALL GROUP WORKSHOP -- MANPOWER AND SPECIFIC HEALTH OCCUPATIONS

12:00 CONFERENCE LUNCHEON

1:30 THIRD WORKSHOP SESSION: CONTINUATION OF GROUP DISCUSSIONS

3:00 SUMMARY OF CONFERENCE

Dr. Edward B. Jakubauskas

3:30 ADJOURNMENT

Elizabeth E. Kerr

III. Conference on Comprehensive Planning for Health Manpower Needs: General Recommendations

A. Conference format

As indicated above the strategy adopted by the Industrial Relations Center in carrying out the feasibility study was:

1. To develop tentative estimates of health manpower needs which would serve as guides for discussion by consultants to the project.
2. To develop a set of working papers which would serve as a self-evaluation mechanism on health manpower needs.
3. To bring together a group of knowledgeable state and national consultants in a conference to suggest more effective methods for the development and utilization of health manpower.

The sponsors decided in the fall of 1967 to schedule the conference in Des Moines on March 13-14, 1968. It was decided after the statewide meeting that local multi-county meetings should be deferred. This decision was reached on the basis that the locus of decision making regarding health manpower was at the state rather than the local level. Although the area vocational schools were established on a multi-county level, and state government agencies were beginning to explore the concept of local and decentralized service centers, major decisions were still largely made at the state level by associations and state agencies.

The format of the conference was designed to maximize discussion and interaction among the consultants. Therefore, the session on the first day presented the views of consultants representing federal agencies, top-level authorities in Iowa, and a number of other speakers who outlined the scope of health education in Iowa or provided a perspective for discussion in the workshops. During the second day of the conference the consultants met in small-group roundtable workshops to make specific recommendations for increasing the quantity and improving the quality of health manpower.

B. An Overview of Conference Recommendations

The speeches and workshop reports of the two-day conference will be edited and published at a later date. (Appendix D includes an unedited report of the workshops.) For purposes of preparing this report to the U.S. Office of Education on the funded pilot-feasibility grant, the principal investigator has brought together some of the comments and recommendations of the participants. The interpretation of the proceedings is, needless to say, solely that of the principal investigator.

The general purpose of the conference as indicated to the participants in the program brochure was fivefold:

"To study health manpower in terms of:

1. Needs in existing health occupations;
2. Needs in new and emerging occupations;
3. The adequacy of the current educational structure for preparing supportive health personnel;
4. Needed research;
5. The feasibility of developing and implementing a comprehensive health manpower program."

Points 1-4 will be discussed in this section. More detailed recommendations will be summarized in Section III. C. through the separate analysis of points 4 and 5.

1. Needs in Existing Health Occupations

a. Team Approach: Matching Skills With Tasks

Probably the most repeated comment made by guest speakers and workshop participants was that the "occupational approach" to patient health care should be substituted by a "team" concept. This implied that there had to emerge a task orientation among health personnel which implied that high-level skills should be conserved and utilized only on tasks requiring these scarce skills. A number of participants mentioned that in many cases health personnel were not being used at optimum levels. In essence, high-level personnel were performing menial tasks.

A related question was raised as to whether or not health personnel were being overtrained for the nature of work which was required for a particular task. (Figure 1.)

Both comments tended to imply that supportive personnel should be utilized wherever medically and economically feasible, and that abilities and skills should be proportional to the inherent nature of the tasks to be performed.

Figure 1 indicates a situation where high-level skills are unutilized or utilized on tasks requiring less training and skill. Frequent comments by participants, for example, indicated that R.N.'s were often involved in tasks requiring routine clerical skills, record-keeping, form-filling, etc. which were unrelated to training received by R.N.'s.

Figure 2 indicates a situation suggested by conference participants whereby retraining courses were needed to upgrade skills of inactives who were returning to the labor force, or where new developments in the health field required an upgrading of skills.

Figure 3 conceptualizes a suggestion which was frequently made at the conference--that tasks should be analyzed on a functional basis and that job skills be proportional to the requirements of the task.

Figure 1. Conceptualization of skill and task levels: overtrained for task.

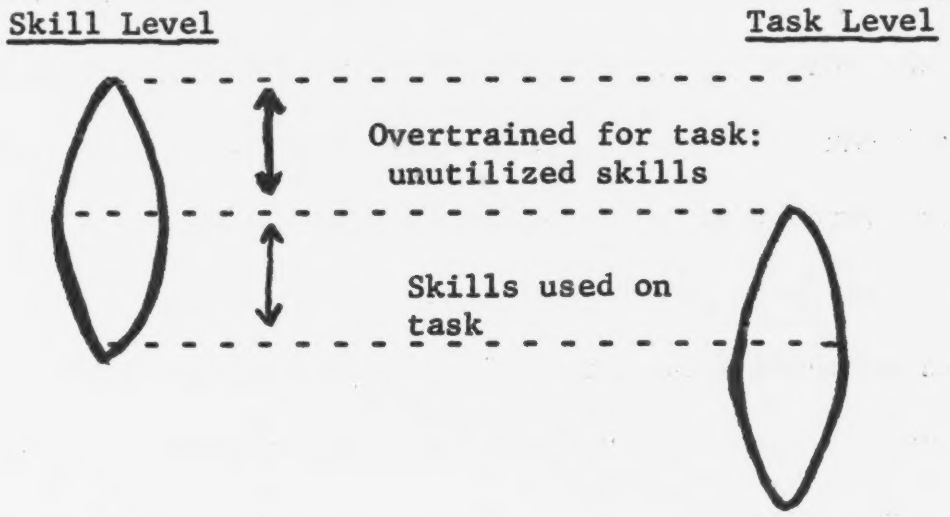

Skill Level
Task Level
Overtrained for task:
unutilized skills
Skills used on
task

Figure 2. Conceptualization of skill and task levels: undertrained; upgrading required.

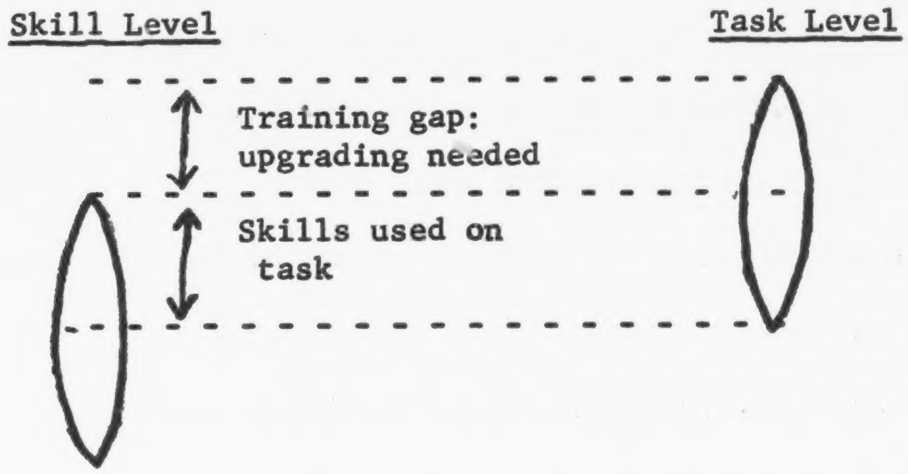
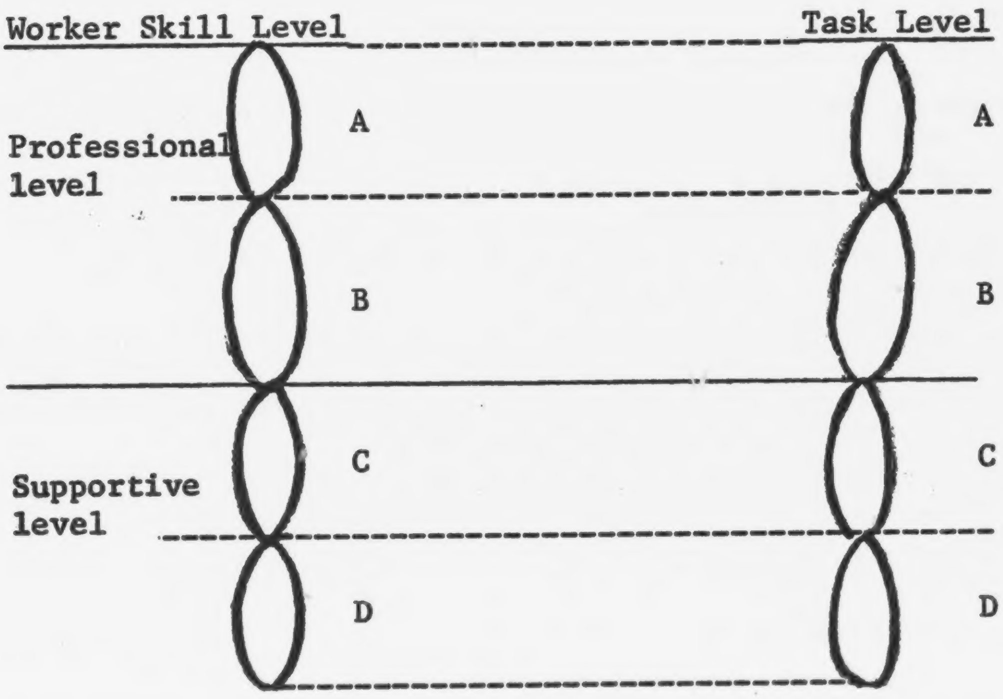

Skill Level
Task Level
Training gap:
upgrading needed
Skills used on
task

Figure 3. Conceptualization of skill and task levels: task analysis and optimum levels of skill utilization.


Worker Skill Level
Task Level
Professional level
Supportive level
A
B
C
D
A
B
C
D

Active discussion and some disagreement took place as to where one would draw the line between "professional" and "supportive levels." It is an understandable goal of occupational associations (extending beyond the health field) to take pride in craft skills and to seek to "professionalize" an occupation. Often hostility is generated when it is suggested that certain tasks should be relegated to lesser-trained persons who are in a supportive role.

In part, economic forces enter the picture and tend to shape the nature of skills within occupational groups. If a particular skill is in short supply, and if the training period extends over a long period of time, "users" of health manpower will be forced to conserve scarce manpower by developing supportive personnel and by providing a better balance between skill and task levels.

If, on the other hand, professional skills are in ample supply (or readily producible in the short run) there will be less pressure to develop supportive jobs or to analyze critically task levels.

The problem is further compounded by the availability of federal funds for training particular health occupational groups. Lack of coordination by federal agencies presents a confusing picture to local health associations and training institutions. In part, there are pressures from the Office of Economic Opportunity, the U.S. Department of Labor, and the U.S. Office of Education for the development of "jobs for the poor," the "disadvantaged," etc. At the same time, large sums are available for recruiting and training professionals in the health field, and raising the esteem, skill level, and professional status of health occupations.

In effect, training at the local level tends to follow appropriation levels in Washington. A number of participants at the conference were puzzled as to the need for comprehensive health manpower planning, suggesting that "if federal funds are available for training, we train." The implication of this is that the promotion of supportive health jobs (and successful implementation) is a function of appropriations and funds available for training of professionals plus the desire of an occupational group to maintain or enhance craft status and prestige.

b. Occupational Ladders

Another proposal frequently suggested was the development of "career ladders." Lesser-skilled jobs and tasks under this proposal should serve as "entry-level" positions for higher-skilled positions. Under this proposal a nurse's aide, for example, would be able to progress to an LPN's position and eventually be promoted after training to an R.N. The health field was criticized for its tendency to "compartmentalize" occupations, and to create many "dead-end" jobs. Figures 4 and 5 conceptualize the problem. In Figure 4 entrants have a limited scope for development. Figure 5 shows potential progression from level D to A.

Figure 4. Compartmentalization of health occupations.

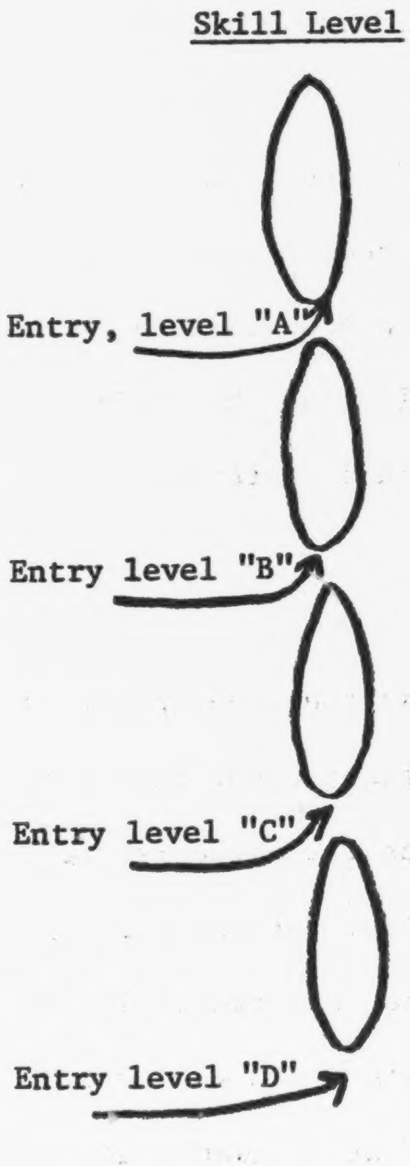
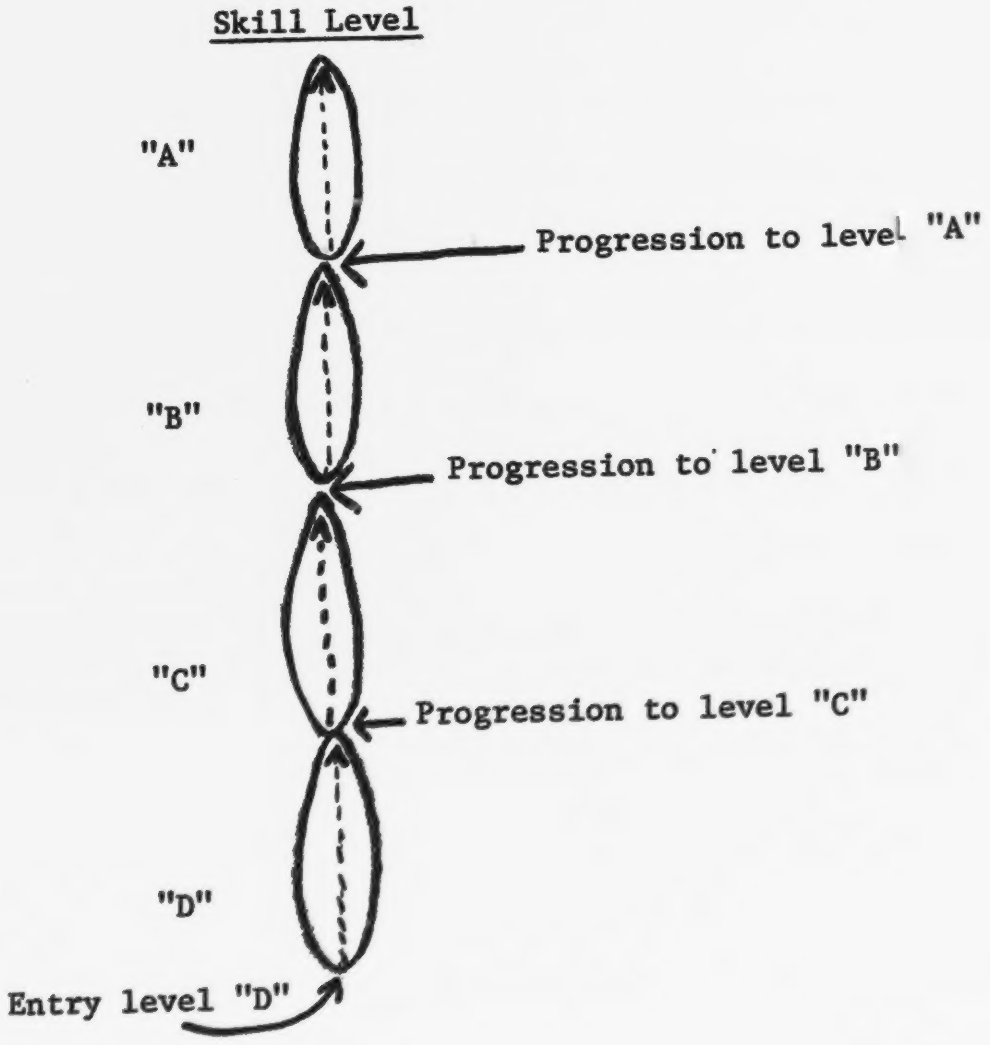
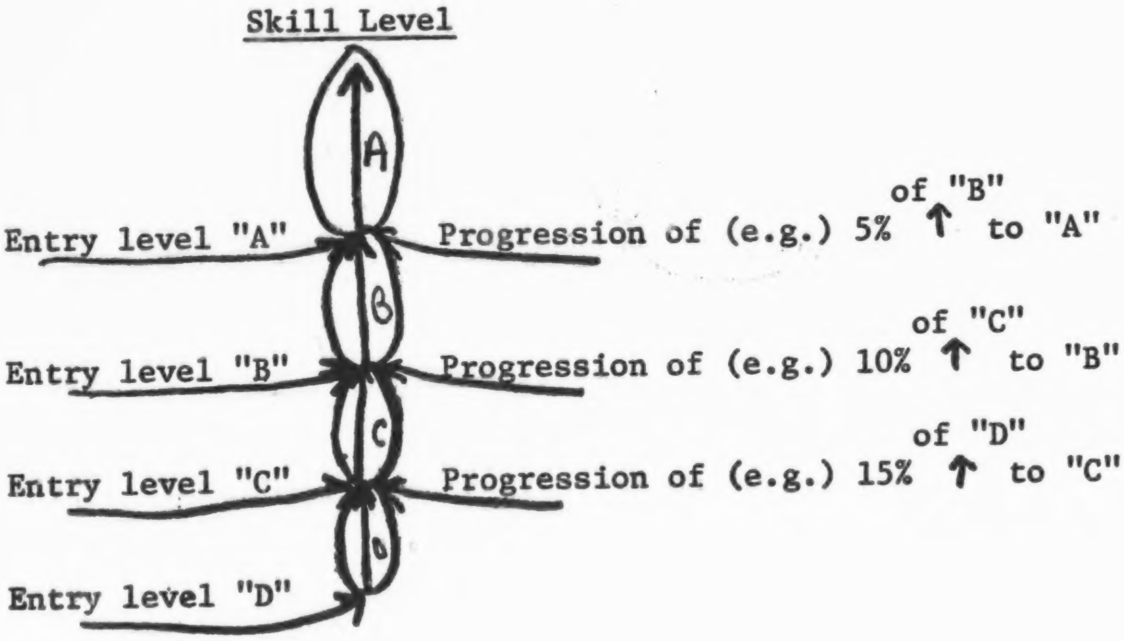

Skill Level
Entry, level "A"
Entry level "B"
Entry level "C"
Entry level "D"

Figure 5. Career ladders for health occupations.


Skill Level
"A"
"B"
"C"
"D"
Progression to level "A"
Progression to level "B"
Progression to level "C"
Entry level "D"

The suggestion of "career ladders," needless to say, did not receive overwhelming approval. Many participants indicated that the range of skills was so great that it was not feasible to consider career ladders on any realistic scale. One must be able to know the difference between protection of "craft prestige" and realistic qualifications for career progression. The most feasible solution would be to consider career ladders in terms of "opportunity for development," and to recognize that career progression from the bottom to the top will take place in a probabilistic fashion.

Figure 6. Modification of career ladders approach.


Skill Level
A
B
C
D
Entry level "A"
Entry level "B"
Entry level "C"
Entry level "D"
of "B"
Progression of (e.g.) 5% ↑ to "A"
of "C"
Progression of (e.g.) 10% ↑ to "B"
of "D"
Progression of (e.g.) 15% ↑ to "C"

c. Greater "Need" for More Health Personnel

"Need" for more health personnel is an elusive concept. There was an awareness by all participants in the conference--particularly by users of health personnel--that more health personnel were needed in all occupations. Needs, however, were most often stated in terms of association "rules of thumb" of desired ratios of personnel to population. Shortages were stated in terms of deviations from these ratios.

In addition, needs were also stated in terms of "vacancies," "budgeted vacancies," or in legal requirements stated in terms of staff-to-patient ratios, etc. Shortages were not usually discussed in terms of the economic concepts of schedules of wage/labor unit functional relationships of supply and demand. It is perhaps beyond the scope of health experts to relate shortages in economic concepts of alternative costs and comparisons of internal rates of return to education among competing occupational areas.

Data presented in the working papers on occupational shortages were challenged in almost all of the workshop groups. Many of the criticisms were valid. Available data were often out of date, and occupational groups were ambiguously defined. (Does occupational therapist mean "certified"? Chiropractors should not be placed in the same category with therapists!!!) There was in most cases an immediate question raised as to whether the data had been published or approved by one's particular association. In the absence of an association's endorsement, there was suspicion and hostility to "outside" sources.

From another point of view, there were critical questions raised as to whether a "survey" of hospitals or other health agencies could yield useful data even if cooperation of health associations were forthcoming.

One participant's written comment clearly demonstrates this problem:

> I feel that neither the hospitals nor the associations can possibly give even reasonably valid statistics until a tool for evaluating the needs of the patient (or client) is formulated. I.E. Occupational Therapists speculate the "need" for O.T. in institutions and say they need O.T.'s in institutions while institutions may not know what the O.T. could do for their patients if they had one. So one gives a large figure of need and the second gives too small an estimate. And in the meantime many O.T.'s go on using themselves inefficiently and letting themselves be used inefficiently, etc. etc., etc.

2. Needs in New and Emerging Occupations

There was virtually unanimous agreement that technological developments and social and environmental changes would result in new health occupations or the restructuring of old jobs. Recognition of the problem, however, still left unsolved the rate of change or the particular impact of change upon skill requirements.

Almost "explosive" needs were reported for health occupations related to nursing home and extended care facilities, environmental engineers, sanitary engineers, water and air pollution work, and in occupations related to use of health equipment and technology.

3. Adequacy of the Current Educational Structure for Preparing Supportive Health Personnel

Most professional personnel in Iowa are developed at the University of Iowa's medical complex. As yet, there has not emerged a clearly defined strategy or philosophy for training supportive health personnel. A large number of workers are trained in a hospital environment--classroom in conjunction with on-the-job training.

A rapidly expanding system for training health personnel has emerged with the development of Iowa's Area Vocational School and Community College system. The Health Occupations Section of the State Department of Public Instruction (located at Iowa City) has provided vigorous leadership for training of supportive health personnel. In March, 1968, about 850 students were enrolled in health occupations in Iowa's Area Vocational Schools.

The discussion at the conference which related to educational structure strongly emphasized the development of a "core curriculum" for health occupations. Numerous cases were cited whereby separate curricula were developed when a task orientation demanded a common curriculum. It was felt by many that a cluster of health occupations ought to share a common orientation and "core" of skills. As a useful byproduct, a core curriculum would facilitate the development of "career ladders." Figure 7 portrays the concept of a core curriculum for health occupations.

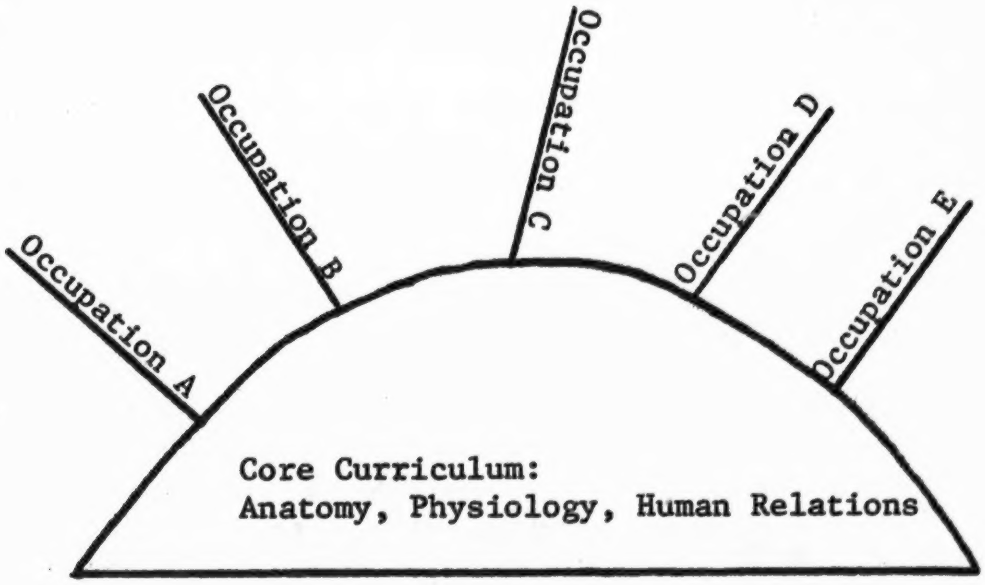

Occupation A
Occupation B
Occupation C
Occupation D
Occupation E
Core Curriculum:
Anatomy, Physiology, Human Relations

Figure 7. Conceptualization of Core Curriculum for Health Occupations

In addition to the "core curriculum" concept, the adequacy of the educational structure was discussed in terms of overtraining vs. undertraining for necessary tasks (I do not need an R.N. to fetch a bed pan for me!; or, We should not demand R.N.'s be trained in pediatrics if they are going to work in nursing homes.); shortages of "qualified" teachers of health personnel. There was little discussion of training optimum numbers among health occupational groups. Training was conducted on the basis of local "feedback" of users of health manpower (hospitals, nursing homes, etc.), the relative interest of particular health associations, and the availability of public or private funds. (For an unedited report of conference workshops, see Appendix D. Section III. C. represents a condensation of conference discussions and papers.)

C. Final Recommendations of Conference Participants

1. Additional health occupations education programs (type, number, and location) should continue to be established according to a need for supportive health workers as determined by surveys and/or appropriate advisory groups.
2. Determine possible reason(s) why the need exists.
    a. Is it because of improper utilization of presently prepared personnel?

   - b. Is there a rapid turnover of employees because of undesirable working conditions and/or inadequate salaries?
   - c. Is there a lack of available refresher courses to expedite the return of presently unemployed personnel?
   - d. Are more practitioners actually needed or is upgrading the performance of existing personnel the primary need?
   - e. Can more men be encouraged to enter employment in the health field with the assumption that this would tend to enhance the stability of the health manpower pool?

3. Improve communications with
   - a. Health professionals -- to discuss the rapidly expanding use of supportive personnel.
   - b. Employers -- to discuss the proper utilization of supportive health-care personnel.
   - c. The public -- to keep persons informed of rapidly expanding types of health occupation education programs available in Iowa to prepare health-care personnel.
   - d. High school counselors -- to aquaint them with education programs for and employment opportunities in the health field.
   - e. Students at elementary and secondary levels -- to orient them to the total health field and inform them of health occupation education opportunities.

b. Assemble teaching materials and media.

c. Actively seek out state funds and other sources of monies to further develop health occupation education in Iowa and to conduct research related to it.

8. Promote a statewide effort to inform the public and Iowa General Assembly of the need to support health occupation education programs in adequate types and number if the needs for prepared supportive health-care personnel in the state of Iowa are to be met.

4. Continue to evaluate curricula offerings at regular intervals to determine:
    a. Curricula revisions necessary to keep pace with new and changing concepts and technologies based on
        (1) scientific job analyses
        (2) an explicit identification of the role of each specific type of health worker.
    b. Amount of flexibility need in programs to enhance effective teaching and learning without jeopardizing quality.
    c. Potential for core-curriculum content.
    d. Feasibility of considering the ladder concept of education for the health field.
5. Improve communications among the health professionals, among educators preparing health workers, and between these groups.
6. Improve the coordination of activities of major health and health-related associations, agencies, commissions, committees, etc. in the state of Iowa.
7. Establish a central agency which would have the responsibilities and capabilities to:
    a. Collect and disseminate general information and research data pertinent to health occupation education.

  b. Assemble teaching materials and media.

  c. Actively seek out state funds and other sources of monies to further develop health occupation education in Iowa and to conduct research related to it.

8. Promote a statewide effort to inform the public and Iowa General Assembly of the need to support health occupation education programs in adequate types and number if the needs for prepared supportive health-care personnel in the state of Iowa are to be met.

IV. Conference on Comprehensive Planning for Health Manpower Needs: Recommendations for Research

A. Health Manpower Data Center

Dr. Arthur P. Long, Commissioner of the Iowa State Department of Health made a strong recommendation at the conference that a centralized "Health Manpower Data Center" be established in Iowa.[8] This suggestion was received with enthusiasm by conference participants.

To be most effective, the Data Center must operate in close conjunction with health manpower training organizations, state licensing agencies, university research departments, health associations, and hospital and other health agencies. Moreover, the Data Center should coordinate its work with state health planning organizations such as:

1. The Health Planning Council of Iowa
2. Iowa Comprehensive Health Advisory Committee
3. Iowa Regional Medical Program (Heart, Cancer, and Stroke)

Conference participants reacted unfavorably toward existing health occupational employment data. In many cases the data were inadequate for policy formulation and the development of training programs. This inadequacy was due to the participants' feeling that in most cases available information was out of date, occupational categories were ambiguous, or health associations had not been consulted in data collection activities.

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[8] Similar Health Manpower Data Bank Centers have been proposed for (or adopted in) Oregon, New York, and Oklahoma.

B. Organizational Involvement in Health Manpower Research

An effective design of a "Data Center" for health manpower must involve numerous organizations and individuals responsible for:

1. Coordination and planning
2. Training and education of health manpower
3. Certification of occupational competence
4. Health delivery services to consumers
5. Health occupational associations
6. Research centers

Beginning with these six major areas of responsibility, we fi that within each of the areas numerous organizations would have an interest in, and potential contribution to, the development and utilization of health manpower data and research. Currently we find th data are being collected or are available in virtually all organizations in each of the six areas. Research is also being conducte in varying degrees, by all organizations.

A brief listing of major organizations in each of the six areas in Iowa follows in this section:

1. Coordination and Planning:
    - a. Health Planning Council of Iowa
    - b. Iowa Comprehensive Health Advisory Committee
    - c. Iowa Regional Medical Planning Program--Heart, Cancer, and Stroke
    - d. State Planning Agency (Governor's office)
2. Training and Education of Health Manpower
    - a. College of Medicine and related and supportive degree programs at University of Iowa, Iowa City (Professional)
    - b. College of Nursing (Professional R.N.)
    - c. Health Occupations Section at Iowa City (State Department of Public Instruction)
    - d. Area Vocational Schools and Community Colleges
    - e. Hospitals in Iowa with on-going health training programs
    - f. School of Social Work, University of Iowa, Iowa City
3. Certification of Occupational Competence
    - a. State Board of Health
    - b. Iowa Board of Nursing
4. Health Delivery Services to Consumers
    - a. Hospitals and clinics (Iowa Hospital Association)

  - b. Medical and dental offices
  - c. Nursing and extended care facilities
  - d. State Department of Social Services
  - e. Mental health centers

5. Health Occupational Associations
   - a. Iowa Medical Society
   - b. Iowa Dental Society
   - c. Iowa Pharmaceutical Association
   - d. Iowa Nurses' Association
   - e. Iowa League for Nursing
   - f. LPN Association of Iowa
   - g. Iowa Association of Medical Record Librarians
   - h. Iowa Physical Therapy Association
   - i. Iowa Health Careers Council
   - j. Iowa Occupational Therapy Association
   - k. Iowa Radiologist Technicians
6. Manpower Research Organizations
   - a. Industrial Relations Center, Iowa State University
   - b. Center for Labor and Management, University of Iowa
   - c. Iowa Manpower and Job Information Committee (informal organization of state agencies and university research centers.)

d. Research Coordinating Unit, Department of Public Instruction

e. Research Division, State Employment Security Commission

The above is merely a cursory listing of organizations involved in various aspects of health manpower. Any data bank or center concerned with the collection, accumulation, processing, and utilization of health manpower data would have to involve--at a minimum--all of the 33 organizations listed above.

The next section will consider how data collection and health manpower studies could be conducted by involving public and private agencies in Iowa involved in delivery of health services, training of manpower, certification, and basic and applied research.

C. A Model Health Manpower Data Bank System

Step I - Determination of Health Care Needs for Iowa

1. Overall strategy and plan of action (coordination and planning agencies involved: 1. a, b, c, d above.
2. Consideration of population changes, patterns, densities.
3. Alternative combinations of technology, manpower, and other resources to provide health care at optimum and efficient cost.

Step II - Assurance of Quality Health Care

1. Protection of consumer through realistic health standards (agencies involved: 3. a, b.)

2. Legislative standards
3. National association standards (agencies involved: 4. a-e.)

Step III - Adequacy of Health Manpower Skills, Working Conditions

1. Maintenance of occupational skills and protection of standards and working conditions of health workers (agencies involved: 5. a-k.)

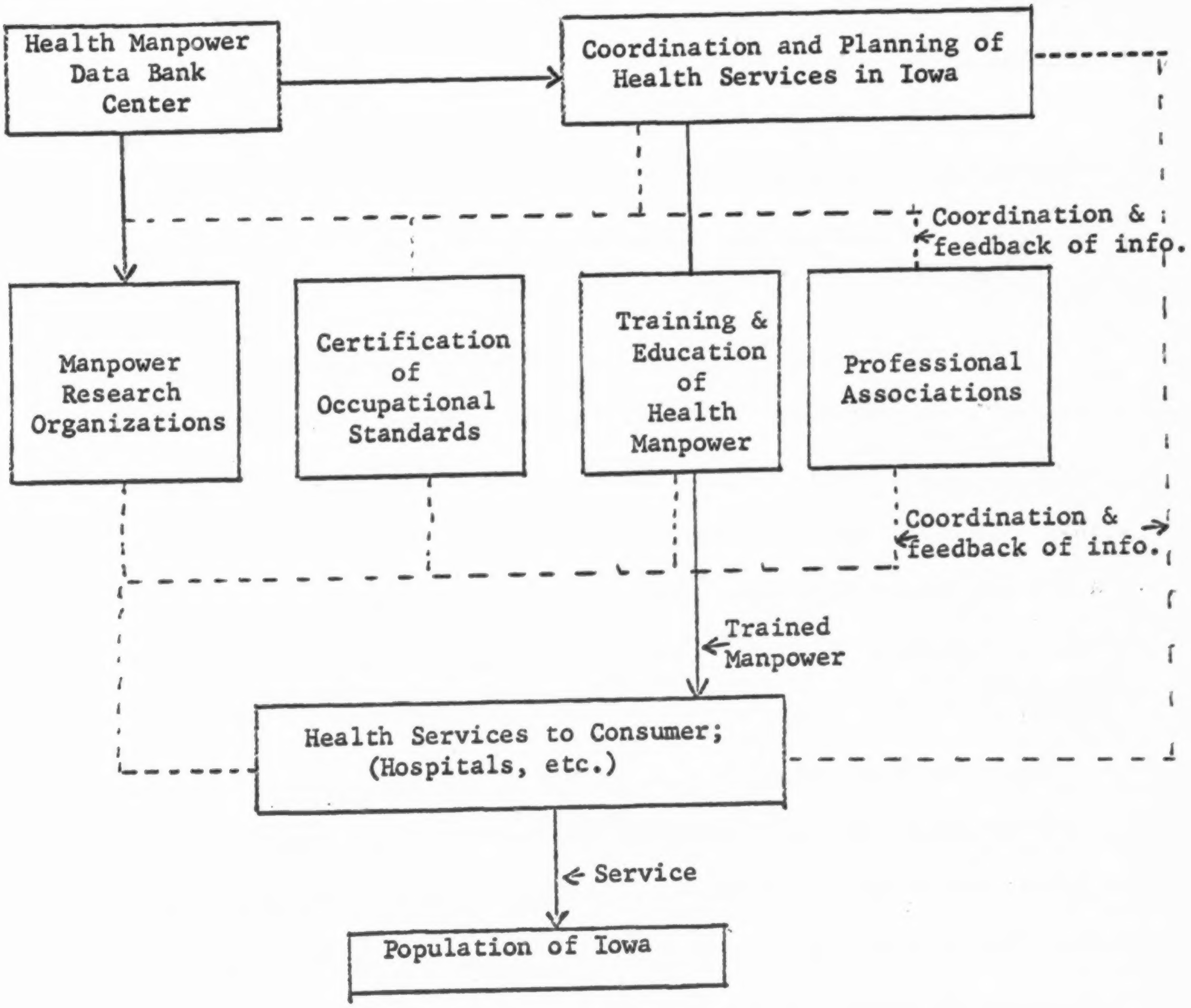
Step IV - Forecasting Manpower Needs, Studies of Working Conditions, Survey Design, etc.

1. Utilization of social science disciplines in manpower research (agencies involved: 6. a-e.)

Chart II represents a suggested organizational plan and flow chart for a Health Manpower Data Bank Center. A vital feature of this center is the involvement of all community groups in the collective, processing, and utilization of information. A research organization (university, government, or private agency) which is not linked with a health association or facility responsible for health care can develop only superficial research studies. The other side of the coin however, would be that research conducted by health groups without knowledge of survey and research methods or training would yield poor information which would be misleading in the development of action programs. Thus, the most practicable and efficient system is to develop a consortium of research specialists, educators, and health experts.

Chart II

SUGGESTED ORGANIZATION AND FLOW CHART FOR HEALTH MANPOWER DATA BANK CENTER


Health Manpower Data Bank Center
Coordination and Planning of Health Services in Iowa
Coordination & feedback of info.
Manpower Research Organizations
Certification of Occupational Standards
Training & Education of Health Manpower
Professional Associations
Coordination & feedback of info.
Trained Manpower
Health Services to Consumer; (Hospitals, etc.)
Service
Population of Iowa

General Plan and Proposed Structure for Comprehensive Health Manpower Planning

A. General Framework

The broad outline for the establishment of a "Health Manpower Data Center" indicated in section IV can readily form the basic structure and nucleus for a system of Comprehensive Health Manpower Planning.

A state planning system stands in marked contrast to a local city or county system. The Indianapolis Comprehensive Health Manpower Program (noted in I.A. above) was prepared under the leadership of the Indianapolis Hospital Association in cooperation with a private consulting firm. The program was designed as a five-year undertaking involving four distinct phases and eleven separate tasks.

A state comprehensive plan by its nature involves a more complex array of organizations, problems, and conflicting interest groups. At the very minimum a five-year planning horizon is mandatory for effective operations which would bring about meaningful change. The suggested organization and flow chart outlined in the previous section for Health Manpower Research and Data Bank purposes is also suitable for the initiation of a comprehensive health manpower program.

There is little need for additional coordinating structures at the state level in Iowa. The four major coordination and planning organizations in Iowa (Health Planning Council, Iowa Comprehensive Health Advisory Committee, Iowa Regional Medical Planning Program, and the State Planning Agency in the Governor's office) should develop an informal cooperative structure for a comprehensive health services plan with a component for health manpower planning.

The four planning agencies should develop close liaison with a Health Manpower Research and Data Bank Center and with a new operational "experimental and demonstration unit" which would have the on-going day-to-day responsibility for innovating and creating new approaches leading to the solution of health manpower shortages in Iowa. This "E & D" unit would have the function of working closely with the 33 organizations indicated in the previous section--particularly the four coordinating and planning agencies. Working from the general plan for health services and within the context of state planning, the "E & D" unit would:

1. Assist in the development of innovative and creative approaches in restructuring health occupations with the goal of developing supportive jobs where economically feasible and medically justifiable.

2. Conduct experimental programs involving the testing of changes in working efficiency in relation to changes in wages and working conditions.
3. Experiment in the development of "career ladders" for health occupations.
4. Develop "core" courses and common curricula.
5. Anticipate future changes in technology and their effects upon health manpower as well as upon the delivery of health services to consumers.
6. Experiment in altering working conditions (hours, wages, fringes, etc.) as an instrument for increasing the supply of health manpower.

B. A System for Health Planning

An "E & D" approach is merely a first step in developing better knowledge of health manpower needs. Successes experienced through experimentation would require wide implementation. This, in turn, requires the highest level of skill in human relations, organizational theory, and most of all a comprehensive knowledge of the health field.

A full system of health planning involves:

1. A knowledge of current size, location, density, and composition of population to be served.

2. Trends in population.
3. Health education involving all aspects of preventive health care, public and environmental health, accident and injury prevention, and health self-care.
4. Analysis of efficiency of current programs of health care through central collection of cost data, revenues, and types of consumers served.
5. Current technology and manpower utilization in hospitals, nursing homes and other health delivery organizations.
6. Development of cost/benefit studies to determine relative efficiency of expenditures for preventive health care vs. treatment.
7. Utilization of E & D studies as a guideline for evaluation of costs and revenues of current health care programs.
8. Evaluation of health delivery goals in relation to alternative cost ratios of various combinations of technology and manpower in meeting health care needs.
9. On-the-spot industrial engineering evaluations of work procedures (time and motion, work scheduling, etc.) with the goal of reducing health care costs per unit of health care (or increasing health care per unti of health costs).

10. Wide dissemination of information and research to health agencies through a utilization unit which would be concerned with making innovations operational.

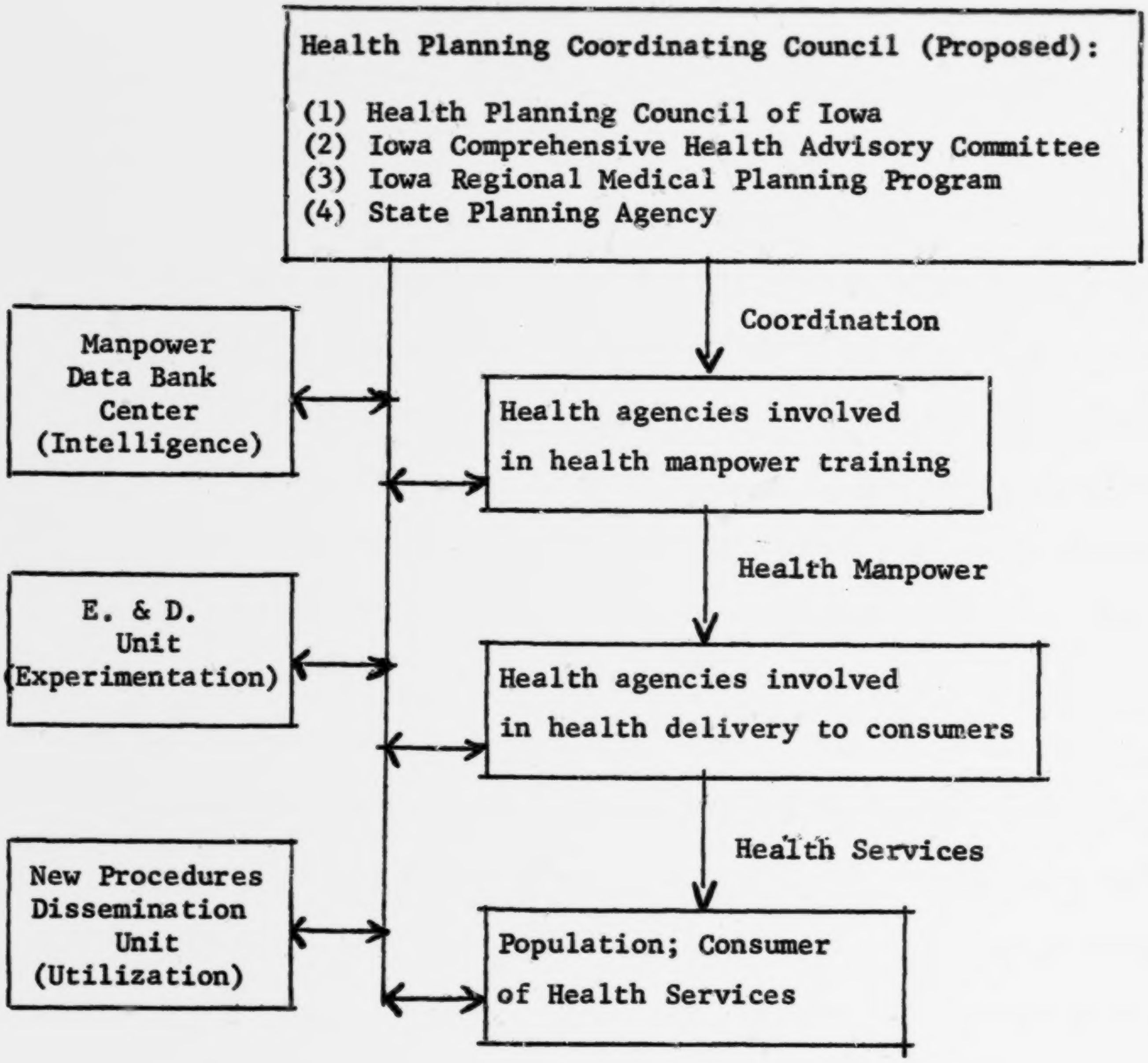
Chart III indicates high-level coordination of health agencies within the framework of the State Planning Agency in Iowa and other health planning organizations. It is only at this level that a broad perspective of health needs (as well as other public services) can be envisaged. A lower level of planning would, in all likelihood, only yield a piecemeal approach with manpower imbalances, shortages, and further distortions.

Yet, given a high-level orientation the end-product of all health manpower training must be kept in mind -- the delivery of medically competent and economically feasible health services care to the population. Consequently it is vital that lower-level (and operational) agencies be involved in the planning process.

To generate meaningful change, however, new data and information must be obtained, processed, and disseminated to those who are called upon to make decisions in the education and health fields. In a supportive role, it is essential that a Manpower Data Bank Center be complemented by an experimental and demonstration unit, and that both in turn be assisted by a

CHART III

A Model Health Planning & Coordinating System


Health Planning Coordinating Council (Proposed):
(1) Health Planning Council of Iowa
(2) Iowa Comprehensive Health Advisory Committee
(3) Iowa Regional Medical Planning Program
(4) State Planning Agency
Coordination
Manpower Data Bank Center (Intelligence)
Health agencies involved in health manpower training
Health Manpower
E. & D. Unit (Experimentation)
Health agencies involved in health delivery to consumers
Health Services
New Procedures Dissemination Unit (Utilization)
Population; Consumer of Health Services

team responsible for the utilization and application of successful experiments to the health care field.

C. A Note on Regional Planning

1. Multi-State

Initial discussion on the pilot study between the principal investigator and the U.S. Office of Education focused upon the possibility of developing a multi-state regional health manpower planning program. This would be a highly complex task and would of necessity involve federal officials and agencies (national and regional), national health associations, and officials of cooperating state agencies. Legal and political questions relating to state sovereignty would complicate the program. On the other hand, there are obvious benefits to regional planning, particularly in relation to the possibility for "Regional Training Centers" for occupations where economies of scale are present at the regional but not at the state level. Rather than attempt the development of a "comprehensive" regional program a more effective procedure would be the initiation of training centers for selected health occupations. The federal gevernment, in cooperation with national health associations, should exert leadership to explore the potential for regional training centers. A number of benefits would be immediately attainable: (1) development of core curriculum for clusters of health occupations; (2) standardization of quality of training and common certification; and (3) more efficient use of scarce teaching resources.

2. Multi-County

Effective planning -- given an overall state plan -- should proceed without delay at the multi-county level within states. In Iowa there has been considerable discussion relating to the decentralization of state services to more effectively serve local communities. The Governor's State Planning Agency has delineated Iowa's 99 counties into 16 functional service centers--roughly corresponding to the Area Vocational School Districts. Planning for health manpower training could proceed most effectively with immediate coordination with the Area Vocational Schools in the short run. In the long run a fully coordination system ought to be developed in conjunction with overall planning of the Governor's office.

D. Federal Funding and the Development of Comprehensive Planning

As a final note it should be emphasized strongly that comprehensive health manpower planning can only be effective to the extent that coordination can be achieved at the federal level. Since there are numerous federal agencies interested in health manpower training--

with each agency working closely with its own counterpart at the state level--a coordinated federal program in health manpower is a necessary prerequisite to state (or regional) planning. Beyond this, cooperation must also be developed with national health associations. Given the attainment of these conditions, state and regional planning are both feasible operationally and advantageous from the economic and medical points of view.

Appendix A

Resource Personnel Participating in Initial Planning of Pilot-Feasibility Project

Indicated below are those who have participated in the planning sessions leading to the development of this project proposal. (April 12, 1966 meeting*; May 13, 1966 meeting**; attended both meetings***):

*** Edward B. Jakubauskas	Iowa State Manpower Development Council; Iowa State University, Ames
*** James A. Socknat	Iowa State Manpower Development Council
*** Carl W. Fairman	Iowa State Manpower Development Council
* John M. Ropes	Iowa State Manpower Development Council
** Dana Merrell	Iowa State Manpower Development Council
** Father Cyril F. Engler	Iowa State Manpower Development Council
* Walter M. Burnett	Board of Control
*** Warren Freiband	Board of Control
* Elizabeth Palmer	Board of Control
*** Dr. Elmer Smith	Board of Social Welfare
* Joe Veehoff	Department of Social Welfare
*** Cecile E. Kopecky	Assistant Director, H.O.E. Programs in Iowa
*** Elizabeth Kerr	Director, Health Occupations Center
* Vera M. Sage	Exec. Dir., Board of Nursing
* Merlin Lee	Personnel and Training Office State Department of Health
*** Thelma Luther	Division of Nursing, Health Dept.
*** Lloyd Nelson	Department of Health
* Madeline M. Downey, M.D.	Department of Health
* James F. Speers, M.D.	Department of Health

*** P. J. Houser	Department of Health
*** Winifred W. Cleveland	Department of Health
*** John W. DeBiak	Department of Health
* Jack W. Clemens	Department of Health
** Vivian Jensen	Department of Health
** Paul H. Ogilvie	Department of Health
** Linda Mulder	Department of Health
** D. O. Vipond	Department of Health
** Stanley L. Hendricks	Department of Health
* Bernard Yabroff	Office of Education, Washington, D.C.
* Windol Wyatt	Department of Public Instruction
* Kenneth M. Wold	Department of Public Instruction
* Charles Churan	Commissioner's Office on Alcoholism
*** Helen Henderson	Iowa Assn. for Retarded Children
** Glenn W. Sterling	Iowa Commission for the Blind
*** Albin T. Benander	Employment Security Commission
** E. Frances Stoney	Board of Nursing
** Lew Wagner	Bureau of Business & Economic Research, University of Iowa
** John C. Bartlett	College of Medicine, Iowa City
* Robert Herman	Office of Education, Washington, D.C.

Appendix B

Excerpt from Conference Working Papers:

Health Manpower Requirements U.S., Eight-State Region, and Iowa, 1960 and 1975. (Prepared by Mrs. Catherine Palomba, Industrial Relations Center, Iowa State University, Ames.)

II. Health Manpower Requirements: The National Picture

A. Introduction:

The following projections of health manpower requirements are based on the data and method presented in the BLS publication, Tomorrow's Manpower Needs.

The method consisted of two steps. Linear regressions of state against national industrial employment were used in order to obtain estimates of state industrial employment in 1975. These industrial employment estimates were then multiplied by appropriate occupational patterns in order to determine the number of each occupation employed in each industry. Total occupational employment was then obtained by summing the number employed in that occupation over all industries.

The determinants of occupational employment growth are thus industrial growth and changes in the occupational make-up of the industries. The assumption made in obtaining the estimates presented here was that the state occupational patterns are the same as the U.S. occupational patterns.

With this in mind, it is interesting to see what is expected to happen to the occupational pattern of the medical industry for certain health occupations between 1960 and 1975.

Of the sixteen health occupations presented, seven are expected to increase their share of employment requirements in the medical and other health industries. These include biological scientists, technicians--medical and dental, veterinarians, chiropractors and therapists, opticians and lens grinders, attendants--hospital and other institutions, and practical nurses.

Three of these seven occupations are mainly employed in occupations other than the medical industry, while for the remaining four at least 80 percent are employed in the medical industry. Employment requirements for the former three will thus depend on the growth and occupational structure of industries other than the medical industry as well as increase in their employment share of this industry.

Of the remaining nine occupations, one--psychologists--is expected to maintain its share of occupational employment requirements in the medical industry while the other eight are expected to decrease their respective shares. Of these eight, six are primarily employed in the medical industry. Growth in occupational requirements in these six

Table 1. Health Occupational Patterns--United States

Health Occupation	Percent of Occupation Employed in Medical & Other Health Industry -- 1975	Percent of Medical & Other Health Industry Made Up of This Occupation -- 1960	Percent of Medical & Other Health Industry Made Up of This Occupation -- 1975
Biological scientists	21.93	.24	.26
Dentists	97.55	3.07	2.28
Dieticians and nutritionists	66.70	.69	.47
Nurses, professional	92.93	16.59	14.94
Nurses, student	100.00	4.28	2.23
Optometrists	85.21	.50	.37
Osteopaths	100.00	.47	.31
Pharmacists	8.98	.23	.21
Physicians and surgeons	95.14	7.58	6.65
Psychologists	17.86	.13	.13
Technicians, medical and dental	95.68	4.70	7.04
Veterinarians	4.73	.01	.02
Chiropractors and therapists	83.62	1.48	1.62
Opticians and lens grinders	15.43	.06	.07
Attendants, hospital	94.79	15.37	19.14
Nurses, practical	85.84	5.84	7.45

Source: Tomorrow's Manpower Needs, Bureau of Labor Statistics occupations will thus require enough growth in the medical industry. The six occupations which fall into this group are dentists, professional and student nurses, optometrists, osteopaths, and psysicians and surgeons. Occupational requirements for dietitians and nutritionists, pharmacists, and psychologists will largely reflect growth and occupational changes in industries other than the medical industry.

B. Occupational Requirements--U.S. 1975

The BLS publication contains projections of health manpower requirements for 1975, and these are presented on the following page.

Table 2. Health Manpower Requirements -- U.S. 1975

Health Occupation	Trend 1975/1960 Occupational Requirement	Occupational Requirement--1975	Number Employed in Medical and Other Health Industry--1975
Biological scientists	2.16	63,698	13,968
Dentists	1.44	125,000	121,938
Dieticians and nutritionists	1.39	37,701	25,147
Nurses, professional	1.74	860,003	799,201
Nurses, student	1.00	119,100	119,100
Optometrists	1.37	23,300	19,854
Osteopaths	1.25	16,400	16,400
Pharmacists	1.11	126,000	11,315
Physicians and surgeons	1.69	373,701	355,539
Psychologists	2.35	40,001	7,144
Technicians, medical and dental	2.79	393,402	376,407
Veterinarians	1.40	25,999	1,230
Chiropractors and therapists	2.00	103,697	86,711
Opticians and lens grinders	1.23	25,000	3,858
Attendants, hospital	2.40	1,080,001	1,023,733
Nurses, practical	2.06	463,999	398,297

III. Health Manpower Requirements: Iowa and the Region

A. Iowa

The trends range from 1.00 for student nurses to 2.79 for technicians, medical and dental. Thus all but one occupation will increase its requirements between 1960 and 1975. Furthermore, six of the sixteen occupations are expected to at least double. These include biological scientists, psychologists, technicians, chiropractors and therapists, hospital attendants, and practical nurses. The latter four are principly employed in the medical industry.

The trend factors for each of the sixteen occupations in Iowa between 1960 and 1975 are presented in Table 3 (as well as total occupational requirements). In addition, the occupational requirement is broken down between those required in the medical industry and those in all other industries. The basis of this breakdown is the national percentages presented in Table 1, Columns 3 and 4.

The trends for Iowa are quite close to those of the nation although smaller in each instance. As in the nation, student nurses had the lowest trend while technicians had the highest. Only student nurses had a trend value of less than one. (Evidently growth of the medical industry will not be great enough to offset their smaller percentage value in the occupational pattern of the medical industry.) Four occupations are expected to at least double in occupational requirements. These are the same as those for the nation excluding chiropractors and therapists and practical nurses. In addition, professional nurses, physicians and surgeons, chiropractors and therapists, and practical nurses are expected to increase requirements by at least fifty percent.

B. Regional, 1975

In addition, regional occupational requirements were obtained and are presented in Table 4. The trend factors for each state are presented as well as total occupational requirements in each of the sixteen health occupations for each state. The latter were then totaled to obtain occupational requirements for the eight-state region as well as a regional trend. Application of national percentage to the regional totals then enabled an estimate to be obtained of the number employed in the medical industry as opposed to all other industries.

Of the 7 additional states considered, medical and dental technicians will show the greatest increase in occupational requirements in each state, with trend values ranging from 2.27 to 2.87. Student nurses

Table 3. Health Occupations -- Iowa

Health Occupations	Total 1975	Number in med. industries (using natl. percentages)	Number in other industries	Overall trend 1975/1960
Biological scientists	263	58	205	2.01
Dentists	1893	1847	46	1.33
Dieticians and nutritionists	355	237	118	1.34
Nurses, professional	14574	13544	1030	1.62
Nurses, student	1188	1188	0	.93
Optometrists	328	279	49	1.27
Osteopaths	317	317	0	1.23
Pharmacists	1274	114	1160	1.01
Physicians and surgeons	4669	4628	41	1.58
Psychologists	341	61	280	2.09
Technicians, medical and dental	4662	4461	201	2.60
Veterinarians	1169	55	1114	1.30
Chiropractors and therapists	1819	1521	298	1.96
Opticians and lens grinders	287	40	247	1.35
Attendants, hospital	19626	18603	1023	2.23
Nurses, practical	5497	4719	778	1.92

has the lowest trend value in three states, veterinarians in one, pharmacists in two, and student nurses and pharmacists in the seventh.

The trend value for student nurses was less than one in 5 of the 7 states while pharmacists and veterinarians had trend values of less than one in 4 and 2 states respectively.

Biological scientists and technicians are expected to more than double their requirements in each of the seven states, while psychologists and hospital attendants are expected to more than double in 5 of the 7 states. Chiropractors and therapists and practical nurses are expected to more than double in 4 and 3 states respectively.

Professional nurses and physicians and surgeons are also fast-growing occupations. They are expected to increase requirements by at least 50 percent in 5 of the 7 states.

Considering the overall regional trend, medical and dental technicians has the largest value, 2.68, while student nurses has the smallest. Only student nurses and pharmacists have trend values of less than one, while biological scientists, psychologists, technicians, chiropractors and therapists, hospital attendants, and practical nurses have trend values greater than two. Professional nurses and physicians and surgeons both have trend values greater than 1.5.

Table 4. Health Occupations-- 8-State Region

	Kansas		Minnesota		Missouri		Nebraska	
	Trend	Number Required	Trend	Number Required	Trend	Number Required	Trend	Number Required
Biological scientists	2.25	205	2.20	128	2.05	411	2.68	217
Dentists	1.47	1,410	1.42	2,635	1.35	2,634	1.46	1,146
Dieticians and nutritionists	1.45	589	1.41	610	1.35	726	1.42	230
Nurses, professional	1.78	12,866	1.72	22,515	1.63	19,909	1.77	7,868
Nurses, student	1.02	859	.98	1,701	.93	1,336	1.02	683
Optometrists	1.37	323	1.34	417	1.27	537	1.37	168
Osteopaths	1.36	115	1.30	65	1.23	418	1.35	57
Pharmacists	1.00	1,191	1.04	1,841	.93	2,194	.97	756
Physicians and surgeons	1.74	4,768	1.68	7,872	1.59	8,249	1.74	2,834
Psychologists	2.32	474	2.25	592	2.13	381	2.35	129
Technicians, medical and dental	2.86	4,499	2.77	10,331	2.62	8,167	2.87	2,966
Veterinarians	1.29	466	.97	486	1.20	612	1.18	364
Chiropractors and therapists	2.16	1,913	2.09	2,135	1.98	2,797	2.14	786
Opticians and lens grinders	1.40	292	1.41	687	1.23	638	1.42	251
Attendants, hospital	2.46	18,094	2.37	26,648	2.25	23,265	2.45	11,487
Nurses, practical	2.12	5,357	2.03	8,011	1.92	11,272	2.12	4,019

Table 4 (continued)

North Dakota		South Dakota		Illinois		Total	Regional*	No. Required in Med. Ind. Based on Nat'l.
Trend	Number Required	Trend	Number Required	Trend	Number Required	Requirement	Trend	Percentage-- 1975
2.20	123	2.26	104	2.10	1,567	3,018	2.14	662
1.14	279	1.16	301	1.37	7,348	17,646	1.37	17,224
1.14	75	1.13	63	1.40	2,024	4,682	1.39	3,123
1.39	2,779	1.41	2,826	1.67	53,520	136,857	1.66	127,121
.79	56	.80	99	.96	3,679	9,601	.96	9,601
1.10	37	1.09	61	1.32	1,666	3,537	1.31	3,014
1.03	26	1.06	17	1.26	270	1,285	1.25	1,285
.93	198	.92	272	1.01	5,497	13,223	.99	1,187
1.37	693	1.39	733	1.62	20,899	50,717	1.63	48,292
1.93	54	1.89	45	2.19	1,595	3,611	2.19	645
2.27	991	2.28	922	2.67	19,510	52,048	2.68	49,798
.96	95	1.08	208	1.30	1,136	4,536	1.16	215
1.72	314	1.70	473	2.03	6,334	16,571	2.02	13,857
1.59	85	1.46	76	1.16	1,413	3,729	1.27	575
1.91	4,153	1.94	4,758	2.30	53,510	161,541	2.29	149,125
1.67	870	1.69	1,020	1.96	16,569	52,615	2.01	45,165

*Total includes Iowa as well as 7 states presented in Table 4.

Appendix C

Roster of Participants Attending
March 13-14, 1968
Health Manpower Meeting

COMPREHENSIVE PLANNING FOR HEALTH MANPOWER

DES MOINES, IOWA

MARCH 13-14, 1968

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Appendix D

Workshop Summaries and
Reports: Health Manpower Conference
March 13-14, 1968

Miss Eva Erickson, College of Nursing

We believe in democratic actions so we've changed the arrangements of our arranging committee and the leader is going to make the report rather than the recorder.

Oh I don't know it makes me think of Dr. Long's story yesterday about this man you know you ask all these people who are building, ones carrying stones, ones laying brick, ones building a cathedral. But you see the job actually was to build a garage not a cathedral so I've been kind of confused as to whether I ought to be visionary and think about cathedrals or whether I ought to reapproach the job of building garages.

Anyway our group has come to these conclusions and these agreements and if you'd heard the light and heat at our table you'd be surprised that we even got this far.

First before any new educational programs are established it must be determined whether a need exists for the graduates of that program. Now it might be necessary not to delay a start of such a program until exact extent of the need is determined. Even though some of the data available was subjected to much questioning by our group we did agree that it might be adequate at this time to show the needs even though it does not show the exact extent of local needs.

Two - If the need exists, because current practitioners are not providing quality practice then perhaps the focus of educational programs should be on upgrading practitioners.

Three - If the need exists, because currently prepared well qualified practitioners are not working at all or working in other fields perhaps the focus of activities on changing working conditions and salaries to bring practitioners into active practice.

Four - If the need for personnel is directly related to presumed shortages, then determination should be made whether the shortages are due: 1. to actual lack of trained people 2. to a number of qualified persons adequate but not willing or ready to work, because of personal factors or compensation factors 3. or whether it's due to the utilization of trained persons for tasks not requiring the use of the knowledges and skills which the person attained in education.

Five - Before educational programs are established there is a need to determine what the graduates are to do. It cannot be over emphasized that determination must be undertaken to learn what the health occupations practitioner groups themselves and their official associations have done, are doing, plan to do to identify what graduates should be doing and how they should be educated. Employers must also be contacted to learn the kinds of positions that will be available for graduates and to what extent these positions are related to the knowledges and skills that we intend to communicate to the people in the programs. To attempt to specialize many of the health field activity there must be enough work in the employing organization setting to merit the hiring of such a person. To obtain recruits for new programs, those who influence students in their educational choices, need to be informed of the availability of education in that field. We recommend that there should be more intensified movement in the direction of allowing persons moving into higher level occupations to challenge eye examination the need to repeat basic courses in this new education. That many groups, associations, organizations, schools, governing board groups have interest in this whole field of meeting the health care needs of the people. There is a great need for leadership to bring these groups into effective communication with each other to avoid duplicate and parallel programs with the same roles.

Tom Lyons

On the question of whether shortages of physicians and dentists will result in a redesign of jobs through the use of supportive personnel service and unequivocal quests. There is an unequivocal yes and also there is an impression that perhaps the need in dentistry is greater than medicine for a greater variety of new supportive categories of personnel. Not that they need more absolutely but because they have fewer categories now and they are going to be needing to increase these more again on the area of dentistry the support for people needed at just the University of Iowa dental school. They have 350 dental students and they need 186 dental assistants per day to take care of just the students. There is no estimate available on what the objection would be for all of Iowa. Iowa City graduates 35 dental hygienists from their hygienist degree program per year. They loose over 50% each year to out of state jobs. Though not to surprising, the Iowa starting salary is around $6,000, and in California they can get better than $9,000 starting salary. Probably there is a total need in Iowa of around 600 dental hygienists on the active labor force.

Dale Redig has some information on a plan operating in New Zealand for dental nurses (2 year program) these girls treat all dental care for children up to twelve years of age and they do this in the schools. Whether this could be applied here or introduced here is another story.

Next on the nursing area there is some notion that the personnel structure of the nursing unit within five years will be drastically changed due to the introduction of service unit management and some other specialized messenger and transportation services. Hopefully this will free more nurses for nursing activities. This has been increasing in the last four or five years even here in Iowa. On salaries in Iowa for starting nurses they average out about $6,000 for the hospital staff nurse, the I.N.A. has a goal of $7,200.

On the education in the Iowa Hospital Schools (there are 18 of them) out of the 18, 9 hospital schools in Iowa did not fill their classes in the fall of 1967. They wanted and did not get 89 more students. They didn't get them for two reasons: 1. because there was a lack of qualified applicants and 2. because of multiple applications by the girls where two or three schools would accept them they'd only take one, that would leave the school hanging or the other two schools that they did not accept hanging.

On recruiting more males in nursing the percent of male nurses has been increasing recently and this is a very opportune field for males to go into mainly because extremely disproportionately they rise under the management categories of supervisory and management categories of nursing, much faster than the females. The opportunities for careers in nursing, perhaps in nursing for males, have not been emphasized to the high school counselors and career counselors. There are available from A.N.A. publications on opportunities for males in nursing. There is the possibility that perhaps you could use the returning Vietnam corpman both as a source of applicants for male nursing and also as a possibility for changing some of the images of male nursing that seem to be stereo-typed by population.

Generally there is some dissension within the group on the need for health education to be flexibly schedules at this level so that a class is not offered only once a year. You have a number of people particularly in the people who have the short-term perspective who don't aim for four years of education. They want something they can go to in a year and get out. These people seem to be unwilling to wait for eleven months until the class begins. There is some expression there for more flexibility on these classes, however, there are also some headaches -- the scheduling problems would be a nightmare for the educator who has to do this. Some possibilities for coping with this would be to differentiate between the short term and long term program people to use remedial individual study to hold a person until a class is starting out. Also to use as much hardware as available for this individual type instruction purposes where the person can move at his own rate. There seems to be the availability of hardware although we are not sure whether there is any clearing house for information on what films for program instruction are available in the health education areas.

Table 5 - Miss Margaret McDonald

We discussed at great length the materials that were given to us and we felt that there were many inaccuracies and as these inaccuracies were unable to be corrected we felt that this material should be held in a confidential nature until the inaccuracies could be corrected. We discussed this at great lengths especially in the OT Department and PT Programs. We felt that at the projected need for health occupational workers became apparent as people became available in these areas and demonstrated their work then we could sell this idea to a consumer and that these consumers would then properly use these people. We feel that members of the professional community should be used to great extent in advisory capacity. They could document needs for developing programs before the mechanics of how the program was to be developed was taken. We feel that these professional people are not used as much as they could be and should be as advisors. Otherwise some programs would not be developed to the extent that they have been before the documented need is shown. We feel that employers should be educated to the proper utilization of supporting health occupational personnel and that there should be a strong relationship among the various levels of all professions to one another. And that in this same capacity there needs to be developed a common terminology in order to provide more effective communication between all health service personnel. We talked about the Area Schools in Iowa as well as institutions of higher learning and we discussed in this area the part of the roles we take in the decision making. We felt that there is a great problem in preparing teachers for all fields and we talked in terms of the availability of good people prepared as experienced people in the health field instead of a teacher, also the problem of salaries that a practitioner could make more as a practitioner instead as a teacher. And we felt that in future conferences to give consideration to inviting more people at the employer level to find out how the other half lives.

Table 6 - Thea Sando

We started with the question, Has medicare made changes in the nursing services or other services to patients? We went on to, the task on who is going to, and who can best, and how shall we describe the jobs and tasks before us in these various health specialities and what the needs are in order to give guidance to the training programs in the assistant fields. . . level of service should I say. Then the question came up--Who decides, who does what, and here it was felt that the professions and the employer jointly should have responsibility.

There is considerable discussion in this area because there are many problems within the existing structure of services. I think we took the clue from Dean Hardin when he said we must not ignore the present structure and the present personnel and the way in which they operate. So we went on from this with no solution at this point but brought out some things that we thought were significant, one being that there is a lack of real good opportunities for promotion within the fields as a physical therapist, occupational therapist or so many other professions are established within any of these health facilities. Also that some of assistant positions that we are talking about probably do not have advancement within them but there are ways of obtaining satisfactions in that they are contributing to the services and that they themselves are receiving satisfactions in these jobs. Then we went on to the other question which seemed very logical for this group because of the backgrounds of the members of it and that was when we transferred this question over to the community. What about the manpower in the community? What about the duplication of services of the nursing service, health services and social services in the community the use of voluntary from some places to help the various professional people and so on. The logical step from this was the use of the community health council. I think if there was anything this group felt very strongly about it was the fact that the community health council of the area approach and the community membership 51% of which to be the consumer found participation is really where the strength lies in any program. In order to implement this and to get some portion of guidance to this program at the local level and when I say local this means several counties perhaps. There are three major state committees that we should have in mind. These are the health planning council of Iowa which have as membership the various health groups and some other members at large. The Regional Medical Program of the Heart, Cancer, Stroke and the Iowa Comprehensive Health Advisory Committee, which is a part of the state Public Health Service, is an official committee in that it is a public official committee of the health department. These three committees then are really to give help, guidance, and stimulation to the local groups. The question came out -- how do we get voluntary agencies and other groups and agencies in the community to cooperate in this venture? This is where I thought we needed to get the picture from the various professional people and get more communication between the people. The group felt also as was previously mentioned the communication between the various professional groups. The pressure from the federal government does mean that community planning is really necessary in order for the grants to be made. The area of the social worker that I was discussing with them was that the social worker could take on here as a consultant, as an educator in the education field in the various areas that are related to the social services and also as a consultant. I felt it is very important. I will be seeing some of you folks about the area of social services where we can be helpful and where we want to get some feed-back from the folks. The area of responsibility of the education departments was emphasized. Utilization of people in the community where capabilities teaching and participating in these programs worked on what data processing meant for the future. It will affect the health care because of the fact that medical information will be more readily available even the people will be even more movable than they are today. Also that data processing and some of the medical care of the future the doctor-patient relationship may become less evident or may be stressed less.

Again to go on to recruitment which some others have mentioned the emphasis was made that it should be a combined effort in listing jobs under agencies in the various fields and that a coordinated effort in some central place perhaps in the employment service and give this in more detail and give a more comprehensive service. Also the use of distributive education and giving credit for distributive education in some experiences in courses as had been mentioned yesterday, giving credit for experience and training educational programs so that they can feel that these can be applied to future steps in their field of service.

Dr. Morris

I must give credit to Dr. Ed Hutchins who had to go back to Iowa State to teach a class this afternoon who took all these notes and I'm just going to try and put them together and make what sense out of them that I can.

It is interesting to listen to the reports of different groups. All of whom were free to go about their discussions as they saw fit, whereas it happened and I listened to them it occurred to me that the group at Table 8 for which we have already built up a certain amount of school spirit did an unusual kind of job because we got on some sort of an educational kick and most of the discussion focused on the role of education in one way or another. I think it started in part by someone raising a question about hospital training programs in which a young lady or a young man that were being considered could be taken into a one year on the job nurses aide training program and various incentives offered such as pay while working and learning and then a raise in pay upon completion of the program and so forth. How nurses aide programs of this day affect the recruitment and training of people going into other areas of nursing such as licensed practical nursing or associate arts programs or registered nurses training programs that is to say two year, three year, or degree programs. Somebody raised the question of what incentive was there anyway for anybody not to go into what we think was a cheap one year job nurses aide training program. Why would anybody not go into this and why would anybody go into a one year L.P.N. training program for example, which would cost them money and time. We tried to answer this in terms of job security, in terms of pay, and a type of work that they might become involved. I think there must be other things that we didn't talk about because it dawns on me now that we didn't get into the usual more or less esoteric area of this area to serve humanity and be good to people and so forth. As I always hope and believe that they do working everyday in the College of Medicine that some of the students come into there with that purpose too.

The main point about our discussion about these nurses aide training programs was epitomized in this statement -- the one year aide program is regarded as an injustice to the student because it is hard for them to rise above this status; that is one year, they could be licensed as a practical nurse. This led us to a discussion of whether or not there were any laws or regulations in the state which govern the hospital offering this type. The conclusion seems to have been that laws in this regard are weak and the hospitals seem to have a free hand in developing whatever training programs they wish and they can put whatever titles they wish on the person at the end of the course and continue this program. We concluded this section with a brief discussion on whether we might not consider getting laws of this type instituted or at least these laws amended to try to correct this kind of situation.

We also talked about whether hospitals would hire L.P.N.'s, even if available, if they could get nurses aides. Some of the conclusions here were that some hospitals would not do this, but the general conclusion was that the better hospitals and certainly the better nursing homes were looking hard for L.P.N.'s and better trained people and would hire them if they could find them. This lead directly to a discussion of why existing training programs were not training more L.P.N.'s than they are training now. I sort of got my neck in a sling at this point by indirectly critizing the Board of Nursing for putting a ceiling, I shouldn't have done that -- specially with Sister Mary Brigid sitting at the table this is a demonstration of how ignorance can be bliss because I explicitly did this and I can assure you she can speak for herself. We did think though that there was a need for more L.P.N.'s to be trained. At this point figures were given that approximately 700 professional nurses were being graduated this year or this past year. And 700 L.P.N.'s were doing the job that we needed to do. We should be turning out near 1,000 in each of these categories each year. Some discussion was also raised concerning the value of having some training for L.P.N.'s particularly in nursing homes. The point being that nursing homes of all types particularly skilled and extended care facilities types of institutions were going to be growing. These would be becoming larger and larger institutions and there should be some kind of an effort made to have students in training gain some orientation toward working in these areas and one of the ways to do this would be to permit them or to provide for some of their training in institutions of this type, not entirely hospitals. It was pointed out that there is some of this going on; I think there should be or could be a lot more of it. So that the students could gain an orientation in the direction of working actually in nursing homes or extended care facilities. Some discussion focused on whether or not this could be done in all nursing homes. I think the meaning of this was that if done in nursing homes they would have to be carefully selected because nursing practices and nursing care was not always optimal in nursing homes. This has to be tempered by saying that you can't talk about nursing homes in general, you have to talk about particular nursing homes. And if these were carefully selected one could provide good training grounds. If not carefully selected then the student runs into the situation where he or she sees individual care not being given to patients and patients being treated in ways that are not consonant with the best of nursing practices. Just meeting the law of so many professional nurses or so many hours of professional nursing per week we agreed was not enough and that patients' needs had to be considered rather than just the minimum requirements of the law.

I will skip several pages here and talk briefly about something else I got my neck into. Talking about transfer of credits for students who go into one year L.P.N. training programs and then decide they would like to go on to something that is more extended or more advanced such as an associate arts program in nursing or actually a regular nursing course leading to a license in professional nursing. And we discussed at some length the problems involved in this and I kept saying I couldn't see any reasons why a course as we are talking about couldn't teach Freshman English and they kept telling me why I couldn't. And this sort of ended when somebody said that everything we teach is relevant and if you need communications skills this is important and we will teach it. But instead of literature we will be reading technical manuals rather than Macbeth. This seemed to end it somehow. I don't think I ever mentioned Freshman English again. This will come up again. We picked on Physical Therapist because we had a good one at our table and Neil set us right on this and speaking in his behalf Terry Jones and some other folks of the physical therapy group expressed objections to the way they are listed in the handout material; along with Chiropractors and the feeling was that someone should point this out to the U.S. Department of Labor, or whoever did this, that there is a difference and that the difference should be recognized.

Finally we got back to this point of credit for work taken and we hit upon the beautiful idea that in order to do the job best as we see it now such groups as have been talked about here such as Medical Technologist Assistant and L.P.N., Operating Room Technicians, Immediate Care Technicians, Medical Assistants and so on and so forth. Some advantage could be gained by developing a core curriculum in general areas of health occupations so that all students going into health occupations could get basic core training and then branch out to the particular area of training that they wanted. Thus you could have large groups; I think as Mrs. Hebbel pointed out she could teach just as well to a class of 150 to 50 and they could be given course work and introductory work in a core curriculum in the health areas after which they would go on to their own area of particular interest whatever it might be. This seemed like a good idea and we even mentioned some topics that should be included in this core curriculum, such as ethics, a course in health and non-health, as Phyliss likes to put it health and disease a course in interpersonal relations, she calls it interpersonal patient relations, perhaps basic anatomy, basic physiology, and so forth and the one that Helen Powers suggested the orientation survey of health services in general so the students can get a picture of the whole field; what goes on in it and what their relationship would be to the rest of the field. We designed this so I'll show you my doodling design here. This is the way it would look sketchmatic form and the red area is the sun rising over the horizon over the core curriculum with rays of light shining on various fields, I'll give you this for posterity. The final point I must not neglect is that the strong feeling was expressed that this group and other groups like us must be much more active in seeking state funds for educational research and development on all the fields of health manpower needs in Iowa. Somehow we must make our needs known to the appropriate state agencies; especially to the general assembly. Incidentally, in relation to the comment Dr. Tomlinson made yesterday that we should have invited senators and representatives that would point out in the list of invited people they were invited and others like them from state government didn't show, however, and perhaps we have to do a better job here too, not only invite them but see that they get here. Maybe we could borrow something from the aging; that if they are older people and want to go to church and can't get out we'll pick them up and bring them back.

Dr. Neil Palomba

I'm just going to touch a few of the highlights we discussed during the last day. One thought that we discussed was the health team approach and one of the comments was that it is probably best demonstrated in the mental hospitals, this idea of a health team approach not just talking about it but trying to actually utilize it. And one of the very important questions raised is, that it is not the institutional part of it we should be talking about, it's the non-institutional approach or team approach for the non-hospitalized customers since they are the users in the health services. We talked about the point of view of the institutional team approach. The big problem here probably would be that the team approach, that is the health team approach, would be the proper supervisory and management training to key coordinators who ever they will be in this team and be non-institutionalized local community team approach in the health field. There they are going to have a different type of problem in Iowa, we might look at the approach of health planning councils as one approach for these local community health team approach to the health field here a helpful planning council course would draw representatives from education, labor, from all the health fields and get them together to work on local community problems in the health area. These problems can be very important; some will be not so important but together, hopefully they get a real community team approach.

In the field of recruitment -- gives a lot of talk about potential health personnel before he or she is a high school senior to change somewhat the image of our health professions to reach more of these males and females in our educational system; to give many people in this country, and this state and community the idea they can get worthwhile education in other than the colleges. That is not to downgrade colleges and universities but to tell one the idea that you can get training in other areas also besides going on to get a bachelor's or a Ph.D. in certain areas.

We talked about the role of counselors in this area of recruitment, the idea of getting a terminology which we can all agree upon in the health field, educators and different people in the different health occupations and getting this terminology across to the students to potential help people to potential manpower. The high school people are going to have to make their choice by getting this terminology agree upon it into the hands of the counselors and by seeing to it that the counselors are periodically kept up-to-date. Not by just mailing the information but by bringing them in to certain meetings and groups to keep them up-to-date on what is going on in the health fields so that they can get a proper picture of their counselees. And to also have the counselors know what the proper background is for different occupations so that they can see to it that if a person is leaning towards a particular occupation in high school in his first couple years he can get some of the background courses he's going to need as background for when he goes on later to get specific education.

In the area of utilization, we talked about the idea that the L.P.N. stories are probably going to have to be repeated in the health field over and over again and this idea specially in Iowa and Illinois. The idea about how the L.P.N. occupation came about, how it was sold to the professions and when successful this kind of story might happen to be repeated over and over. It is hoped that the medical health agencies, professional organizations, medical associations, and educations would get together periodically to find jobs and occupations with an eye towards a way of possibly subdividing tasks of setting up new or better training programs. In some cases the comment was made by a couple of people that we may just have to develop on an experimental basis a new manpower product and a new occupation and then sell it to the associations. Sell it by not forcing it upon them, of course, but by showing them that it would work and of course if it doesn't work just scrap it. This may have to be an approach there. Also in this field of utilization of the role that vocational education can play, in the health field in the role which they already fill now many specifics were mentioned, a couple that I'll mention here. 1. In the area of pharmacy we talked about the community pharmacist. There may be a feeling that this may be the future of pharmacy at least a large part of pharmacy in the community pharmacist to serve many hospitals and many small hospitals. Hospitals that cannot afford a full time pharmacist. 2. In the field of physical therapy we talked about many things -- one thing that we talked about that I think is important was the curriculum revision that has been gone through at Iowa City and that will probably continue to go through and this is an example I think to many professions to keep an eye not only on their own occupations and profession but to keep an eye on the curriculum to make sure it is up-to-date and approved as best it can be. One member of our table mentioned that he wished every table had a dollar sign drawn on it and that he thought this was a help for everybody's idea to the real problem in most cases and that is that when we talk about occupations we're talking alot of times about the salaries of that occupation and that salary or my salary is my employer's cost and my employer's cost is the user or customer's price and that this dollar sign or this three or five week streak, which ever way you want it, is a cycle which we have to take into account. If it wasn't for that dollar sign, a meeting like this probably wouldn't be necessary. I mean if we had our own resources then we wouldn't care how we did things.

Finally, and this whole report is not by all means all we discussed just some very brief highlights. There was strong sentiment at our table that the type of workshop that we did yesterday and today was a beginning and perhaps one way of making this beginning work and go on and not just to peter-out would be to have three or four similar workshop sessions. One or two-day workshop sessions throughout the year where groups like this would get together and at each one talk about more specifics and not about the same thing each time. Each time get more and more specific on what should we do, what should be done. Not only in the health field but more importantly in Iowa and in the local community as they go step by step now and become more and more refined.

Frank Mulhern

Relative to the statistics, we found a few possible errors or omissions. The records, the medical records, did not reflect the impact of medicare nor did it reflect the effect of medicare in extensive care facilities. We also felt that in the area of environmental health it was stated that there was a need for 15% increase in assistance for the next 10 years. From a poll we took just last week on this need for a 15% increase, immediately we know of 300 jobs in this state as of today. So again, keeping current with statistics is not an easy job. when we talk about changes in technology within an occupation the effects of data processing on so many of our occupations is marked in the area of the medical records field if you're in a larger center. Yes, alot of these records are now being processed and programmed. But what about the situation when out in a small area or a rural section, nursing home, small hospital and the like? Again you go back to the old-fashioned method of keeping records.

We found, at least we thought, some unfair practices although in all probability they are justified since they are effective. Some practical nurses, since they receive their licenses under a so-called waiver clause, cannot be considered charge nurses in, I believe it was nursing homes. It is only the most recently licensed practical nurse that could be considered for those jobs. We went into a detailed discussion of the actual experience that the practical knowledge that some of these older generation nurses had and we thought that this should be looked into very carefully because we're talking about a manpower shortage.

Again, we have shown a great deal of concern like the rest of you for adequate utilization of our staff, either professional or subprofessional. Relative to this there were strong recommendations by all I would say, relative to a scientific analysis of job analysis of the professional duties as well as the sub-professional duties. In most of the occupations we were familiar with, we felt that a teaching of professionals to use their assistance to the fullest extent and that this could probably be done through their own profession through meetings arranged by the professional organizations to keep professionals up-to-date. We're thinking of the dental area where, incidently, there is a tremendous job being done and maybe other occupations could profit by their experience progress.

We felt that there should be a forthright analysis of the dentists' function, the assistants' possible functions, the relinquishing of some of the activities to the sub-professionals by dentists for more efficient use of the professional's time and the total effect on dental manpower.

Public information programs to bring about many adjustments in order to get recruits is almost mandatory. Again I come back to a report from another professional job analysis and descriptions, and relative to what does the professional actually have to do and what can he release to the sub-professional.

In our occupation our nomenclature, the terms that we're using should be on a level that the sub-professional, yes the citizens should understand, and we should not continue to use the professional jargon. We should have this standardization of terms, each profession having their own terminology and we of the health field are certainly not alone in this. Have you ever read the work of a lawyer? A legal document? You get lost after the first or second sentence. This key concept that we've mentioned over and over now for two days, why can't we spell it out, what it really is. Can't we identify the real areas of responsibility and the part and the interdependence of one member of the team upon the other, especially for the good of that patient. I think we all agree that there is only one medical field where there was a team concept in practice and that was in the mental health field where the attendant was with the patient longer than the physician is given this recognition and he reports back to the proper authorities for interpretation of what he observes and what he sees and senses. But still that attendant carries a lot of weight when it comes to providing medical services, the doctor being the chairman of the team.

And incidentally it was mentioned that the chairmanship of this health team may rotate. I think we identified that there is a wrestling match going on for chairmanship whenever a health team composed or comprised. And all of us hate like the dickens to relinquish these things that we know we can coordinate. When this is necessary to pass on to the next professional or the next member that's working with the patient.

Health promotion, the curriculum of every manpower specialty needs to include instruction as to how to promote total health maintainence, how to avoid illness and maintain optimum health. The best way to relieve the health manpower shortage is to obviate the large blocks of need for medical services. The encouragement for seeking early curative and restorative health measures and services is part of our health education process dealing on the preventive techniques and approaches. Every person employed in health occupations should be preaching, we use the word preaching, this at every opportunity.

We felt that there was a very serious need for a central clearing house for the collection of information from research and from studies relative to health manpower needs. One of the weaknesses we thought we identified was that programs are being set up because money is available and not enough professional study and research is put into any program to really see whether or not it is justified.

One of our highlights I think is that health education should be brought to the attention of youngsters in the primary or at least the secondary levels of education. Our systems do need reform. We need implementation. It's only when you're on the post-high school level and you're looking for an actual job that health careers come to the surface and it's always too late then. For the most part there has always been poor acceptance of health programs and health manpower proposals as long as the general public does not understand these occupations or have a good insight or understanding of health itself.

It was a feeling that the level of health in the population itself will be proportional to the individual's understanding of how to maintain his personal health. The graduating high school student who has had a good instructional program in health throughout his schooling would be in an excellent condition to make an intelligent choice of health occupations when we try to recruit him.

I just want to add one or two comments here. We felt that as far as new graduates from health occupations were concerned, in general, the older the worker the more apt they were to stay in Iowa because we were concerned with only this state and the younger ones may have greater mobility and move on.

We felt that while we were talking about money and other facets of employment, status enters into the hiring of people and therefore titles reflect this and maybe that's why some jargon is used. Administrators are apt to give all kinds of titles to compensate for a salary that could be below average. It was identified that some new occupations are coming to the fore and professionals within the area that new occupations are being born do not know of them. The new occupation is about 4 or 5 years old and still some professionals do not even know of its existence. Is this due to the professional not attending professional meetings, not doing a little bit of homework and keeping up-to-date on reading the current material and literature? Yes, we're busy, but how busy should we be when we can't even keep abreast of developments within our own profession.

And another sidelight was that regardless of who is in the health occupations every worker is important and we shouldn't regard the kind of tasks we do as this is how important they are. I think that when we talk about the hospital and the medical team, how could a surgeon who is probably considered the leader, one of the leaders, how could he ever operate if they didn't have the custodian or the janitor to keep that surgical room clean and the instruments clean and prepared, other cleanliness habits, good housekeeping habits used. We felt there should be a periodic review of recipients needs, now we use the word recipients here to mean the patients as well anyone else that can use health services, preventive medicine and the like. And this should be reviewed periodically. Yes, we have our advisory committees in the area of field education to help us keep current but also within the profession itself, not them, the practitioners, we'd better take a good look from time to time and maybe set a schedule for such evaluation and study.

We have a few cliches, I think you might call them. There's a great shortage of professional teachers especially those who have practical competency as well as academic competency. I think you could identify those with a great deal of weight in either area but to have values of equal strength in both areas may leave a shortage in reference to this. We felt that while there is a great deal of financial support available for the training of people, that stipends are fine up to a point if a breadwinner wishes to improve his lot and go up the ladder the stipend is available for such. Encouraging such ambitions is not realistic, it's much too low.

All throughout our discussion we saw the animation and the enthusiasm that was reflected from the first day of the presentations and there was one phrase used over and over, and that is: "Let's get on with the job, let's face it, let's work together." And I think that if this is followed through as we leave here, without any mental reservations, that we really respect one another's training, we respect one another's dedication, we think that we can start to work this out successfully in meeting the needs as we identified them during the last two days.

Julia Jacobson

There is an advantage to being the last person because, as someone said yesterday, everything has already been said, but we did discuss the health team and who was involved in the health team and other supporting health fields which brought us down to the ward clerk, and looking at the standing role of the ward clerk, releasing the registered nurse for more important patient care duties. Then, in discussing the various fields in health occupations, which have already been mentioned, the core course content, we feel that perhaps there are many fields that are overlapping in teaching.

Another point that was discussed was that the professions need to take a look at their own fields and define roles, curriculum standards and most of all to look at utilization of their people in the hospitals.

Another field we saw while looking at health occupations and some other new fields, is the health-aide and homemaker service. This is a trained, mature person who works under the direction of an agency to keep a family going if a homemaker is incapacitated. We don't only limit this to women, but it had been brought out that there are many men who could go out and take care of an older gentleman and probably be more successful. They need to know and have a knowledge of food, nutrition, care of the home, children, money management, provide daily needs for these people, personal care relationships within the family and work with different age groups. It was brought out that there are 35 agencies in Iowa today and we have trained 650 people who are employed, so you can see there is a need for this.

A curriculum has been developed by the U.S. Office of Education and the National Council for Home Maker Service.

Since we had a librarian at our table, she thought there should be some separation between a medical records assistant and a librarian but there should be a library technician who could work in public or hospital libraries. Some of the fields that could be staffed in this would be book-mending and filing. It could be a short intensive period of training.

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IN THE COMMUNITY, STATE, REGION

MARCH 13 and 14, 1968
HOTEL FORT DES MOINES
DES MOINES, IOWA

COMPREHENSIVE PLANNING FOR HEALTH MANPOWER NEEDS IN THE COMMUNITY, STATE, REGION

MARCH 13-14, 1968

PROGRAM

Wednesday, March 13, 1968

11:00 Registration

1:00 Session I: Chairman: Elizabeth E. Kerr, Director, Program in Health Occupations Education, Division of Medical Affairs, The University of Iowa; and State Consultant, Health Occupations Education Section, Vocational Education Branch, State Department of Public Instruction

TOPIC: WHY COMPREHENSIVE PLANNING FOR HEALTH MANPOWER?—AS SEEN BY THE FIELDS OF HEALTH, EDUCATION AND RESEARCH

Symposium: Dr. Robert C. Hardin, Vice President for Medical Affairs and Dean of the College of Medicine, The University of Iowa

Helen K. Powers, Chief, Health Occupations Section, Bureau of Adult, Vocational Education and Library Services, U.S. Office of Education

Dr. Israel Light, Chief, Educational Program Development Branch, U.S. Public Health Service

Mr. Thaine D. McCormick, Director Region VI, Department of Health, Education, and Welfare

3:00 Coffee

3:20 Session II: Chairman: Dr. Arthur P. Long, Commissioner of Public Health, State Department of Health

TOPIC: THE SPECIFICS OF HEALTH MANPOWER PLANNING—RECRUITMENT, EDUCATION AND HEALTH SYSTEMS DESIGN

Panel: Elizabeth E. Kerr

Dr. Edward B. Jakubauskas, Director Industrial Relations, Iowa State University

Dr. Robert M. Tomlinson, Chairman, Industrial Education Department, University of Illinois and Director, Iowa-Illinois Practical Nursing Study

5:30 Social Hour—Dutch Treat

6:30 Conference Dinner

8:00 Session III: Small Group Workshop

9:00 Recess until 9:00 a.m.

Thursday, March 14, 1968

9:00 Session IV: Chairman: Dr. Edward B. Jakubauskas
Small Group Workshop—Manpower and Specific Health Occupations

12:00 Conference Luncheon

1:30 Session V: Chairman: Dr. Edward B. Jakubauskas
Continuation of Group Discussions

3:00 Summary of Conference—Dr. Edward B. Jakubauskas

3:30 Adjournment—Elizabeth E. Kerr

3:00 Coffee

3:20 Session II: Chairman: Dr. Arthur P. Long, Commissioner of Public Health, State Department of Health

TOPIC: THE SPECIFICS OF HEALTH MANPOWER PLANNING–RECRUITMENT, EDUCATION AND HEALTH SYSTEMS DESIGN

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Dr. Edward B. Jakubauskas, Director Industrial Relations, Iowa State University

Dr. Robert M. Tomlinson, Chairman, Industrial Education Department, University of Illinois and Director, Iowa-Illinois Practical Nursing Study

5:30 Social Hour–Dutch Treat

6:30 Conference Dinner

8:00 Session III: Small Group Workshop

9:00 Recess until 9:00 a.m.

Thursday, March 14, 1968

9:00 Session IV: Chairman: Dr. Edward B. Jakubauskas
Small Group Workshop–Manpower and Specific Health Occupations

12:00 Conference Luncheon

1:30 Session V: Chairman: Dr. Edward B. Jakubauskas
Continuation of Group Discussions

3:00 Summary of Conference–Dr. Edward B. Jakubauskas

3:30 Adjournment–Elizabeth E. Kerr

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